

APRIL '61

MODERN TEXTILES

MAGAZINE

Specializing in Man-Made Fibers and Blends since 1925

FIBERS

FABRICS

FINISHES



President
GEORGE D.
McCONNELL of
Munsingwear—
\$45 million sales
based on
knitting machines—
story page 31

YOUR ADVANCE GUIDE TO KNITTING SHOW

Advantages of jet dyeing

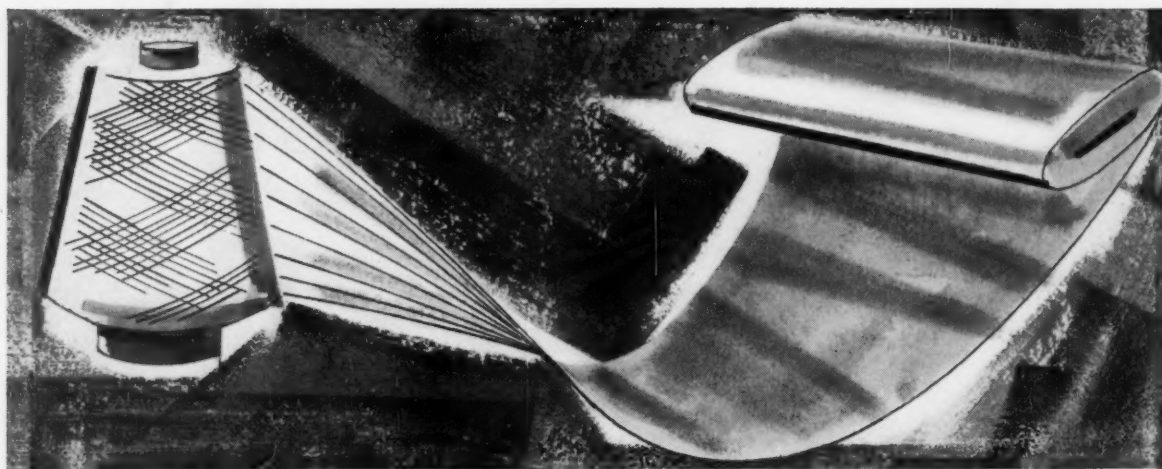
How to weave stretch fabrics

Tex yarn numbering for millmen

AND 12 MORE TIMELY ARTICLES AND HELPFUL REPORTS

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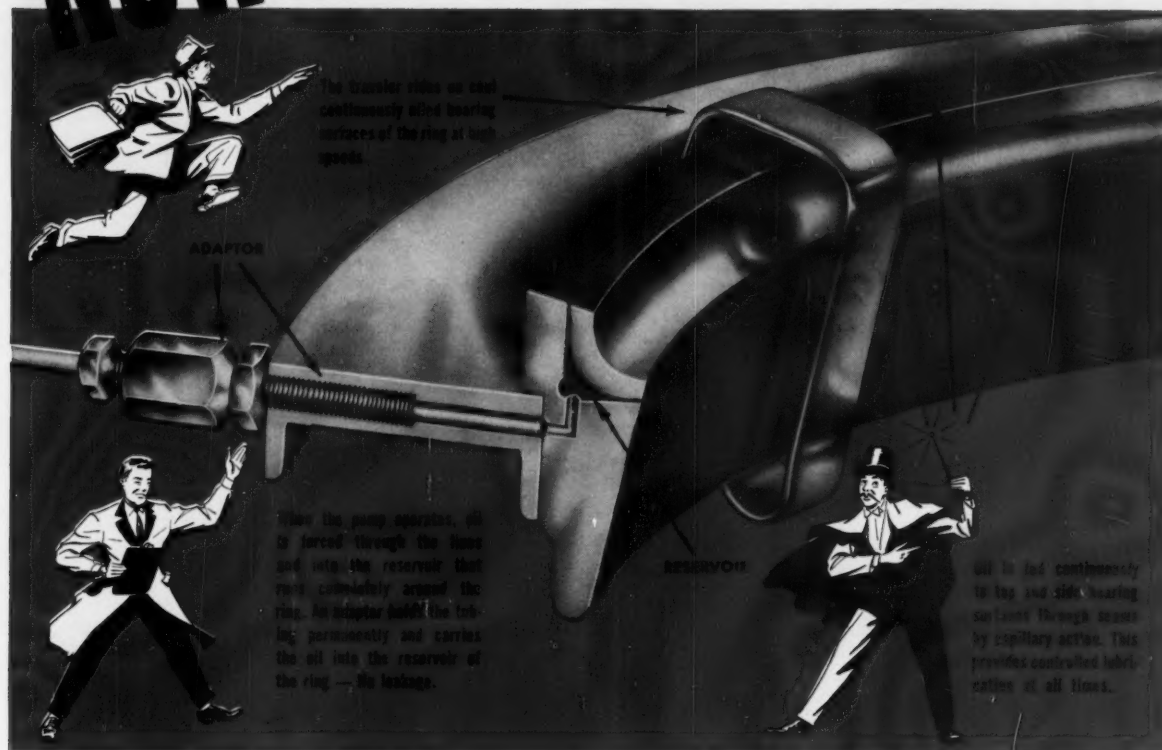
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1961 AATCC Meeting Shaping Up

The 1961 national convention of the American Association of Textile Chemists and Colorists—celebrating its 40th anniversary—will be held on September 27-29 at the Hotel Statler-Hilton, Buffalo, N. Y. Arrangements are being made for a record number of exhibitors at the convention, the theme of which is "International Textile Technology—Key to Progress."

F. L. Sievenpiper, exhibit chairman, reported that the enthusiasm of those exhibitors who participated in last year's convention, encouraged the 1961 convention committee to renew the product display as part of the Convention. The Niagara Frontier Section of AATCC, is host for the annual meeting, in which the Canadian Textile Chemists and Colorists Association will participate.

Thomas Foltz and James Rowatt, chairmen of the technical program committee, report they have already received a number of intersectional technical papers for presentation at the convention.

Celanese Polyethylene Resins

Celanese Polymer Co. has announced the development of a commercial process for making a new line of high-density polyethylene resins, trademarked Fortiflex R. The new resins are reported to offer greater toughness and processing versatility for a broader range of product applications and markets than conventional linear polyethylene. Full production of Fortiflex R is now under way at the Celanese polyethylene plant near Houston, Texas.

Initial volume end-uses seen for Fortiflex R resins include: industrial and household pipe, automobile and appliance parts, containers for liquids, electrical wire coverings, paper coatings and mass injection-molded items such as dishpans, laundry baskets and cups.

AviSun in Japan

AviSun Corp. has concluded an agreement with Shin Nippon Chisso Hiryo, K.K. of Tokyo, Japan, to manufacture and market polypropylene resin, film and fiber in Japan. Construction of a 30 million pound-per-year polypropylene plant is slated to start immediately, with completion set for 1962. The agreement has been approved by the Japanese Ministry of International Trade and Industry. AviSun, founded in 1959, is jointly owned by American Viscose Corp. and Sun Oil Co.

Industrial, Midland-Ross Merger

A merger of the Midland-Ross Corp. and Industrial Rayon Corp. was approved in principle by directors of both companies at separate meetings in Cleveland recently. Shareholders were scheduled to vote on the merger in late April. If the merger is approved, Industrial Rayon (a producer of Tyrex rayon tire cord for tires and other industrial uses, and of textile rayon yarn for the apparel and home furnishing industries), will operate as a division of Midland-Ross, which manufactures products for the automotive, steel, appliance, paper, food, rubber, electronics and construction industries.

New Fabric-Foam Laminates

Reeves Brothers, Inc., owner and marketer of Curon foam, has established a heat laminating plant at Dalton, Ga., named "Curon of Georgia." Curon of Georgia will bond specially formulated Curon polyurethane foam to small rugs in addition to laminating Curon foam to all types of fabrics for apparel. Lamination of Curon foam to scatter rugs is said to give rugs a durable, non-skid, non-flake, washable backing that is permanent.

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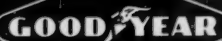
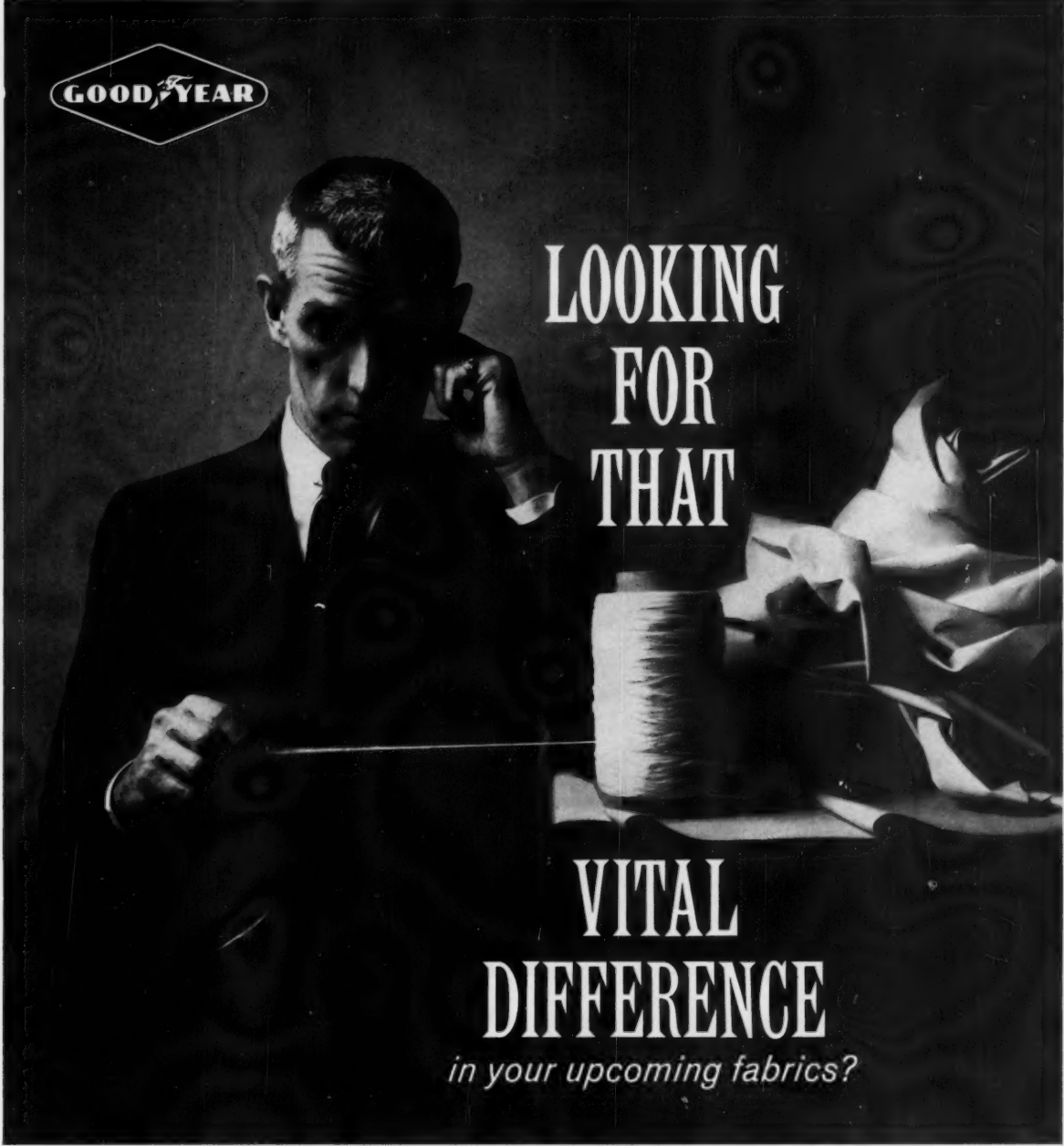
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Other fabric shown by Wamsutta Mills, division of M. Lowenstein & Sons, Inc., New York, N. Y.

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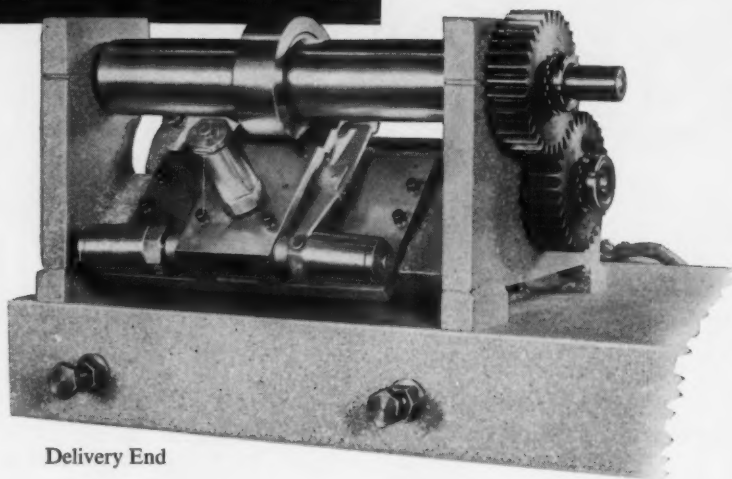
APRIL, 1961

7

CRIMPING

with the
TURBO
DC

Crimper



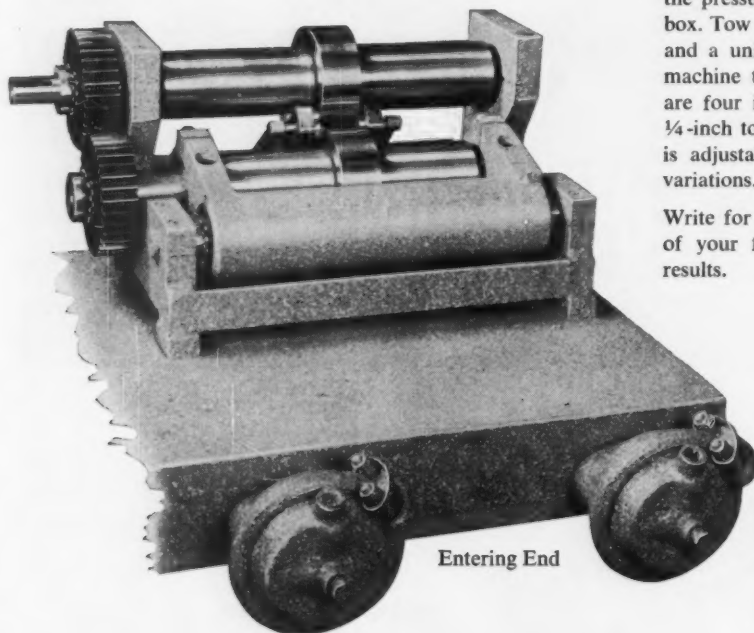
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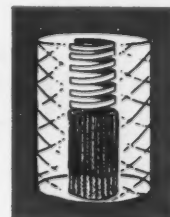
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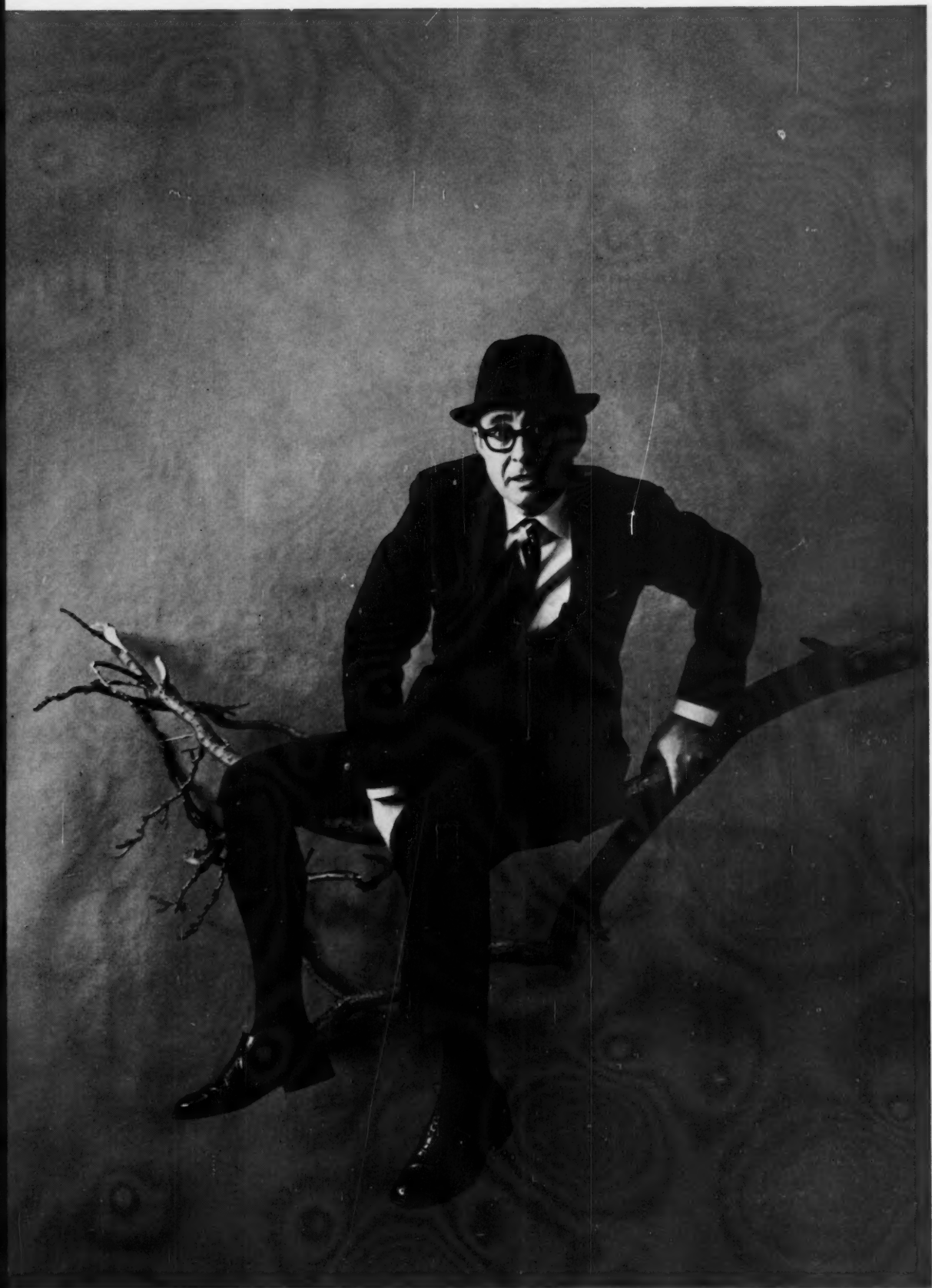
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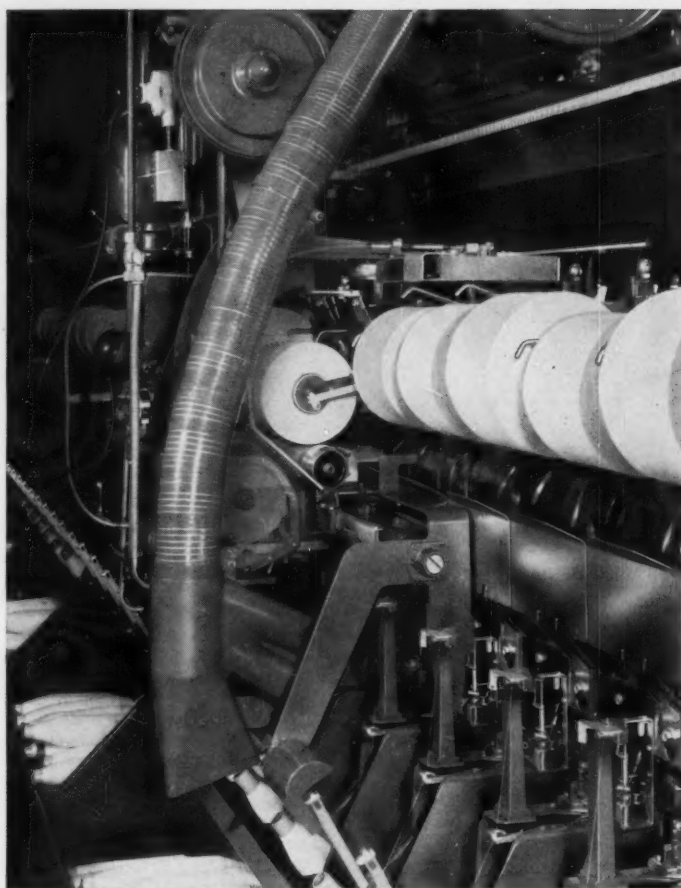
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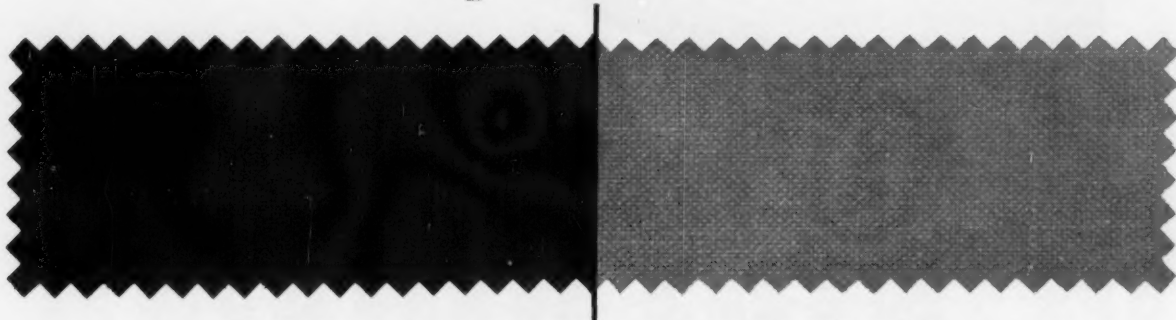
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cotton markets

Change governs today's textile production and dictates tomorrow's textile markets. These constant changes hold a promise to the prepared and a threat to the inflexible. The markets demand versatility.

With UNIFIL® Loom Winders your weave room becomes completely market-oriented. UNIFIL's unmatched versatility allows you to meet your market's mood — single shuttle weave rooms can switch from one filling count to another, from one fabric to another, as swiftly as market changes dictate — UNIFIL can increase your earnings per loom in many ways.

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With the trend toward blends in the cotton field, the growing stretch fabric vogue and the dynamic changes that fashion will bring in the future — UNIFIL offers you a unique form of market insurance. For the complete UNIFIL story, including the low initial investment, call your nearest Leesona Sales Engineer — in Boston, Philadelphia, Charlotte, Atlanta or Los Angeles. Or write LEESONA CORPORATION, P.O. Box 6088, Providence 4, Rhode Island. Orient your mill for a larger share of today's cotton fabric market with versatile UNIFIL.

Some of the many cotton mills that are looking ahead with UNIFIL Loom Winders.

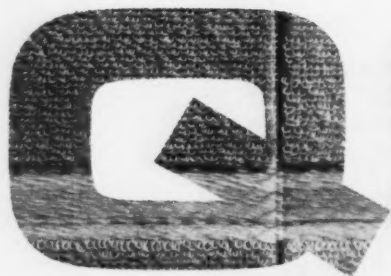
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TALLASSEE MILLS

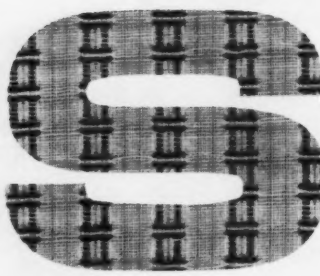
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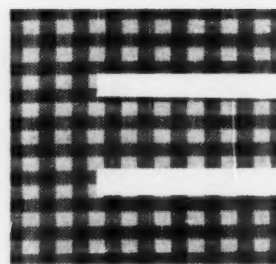
*Crompton & Knowles
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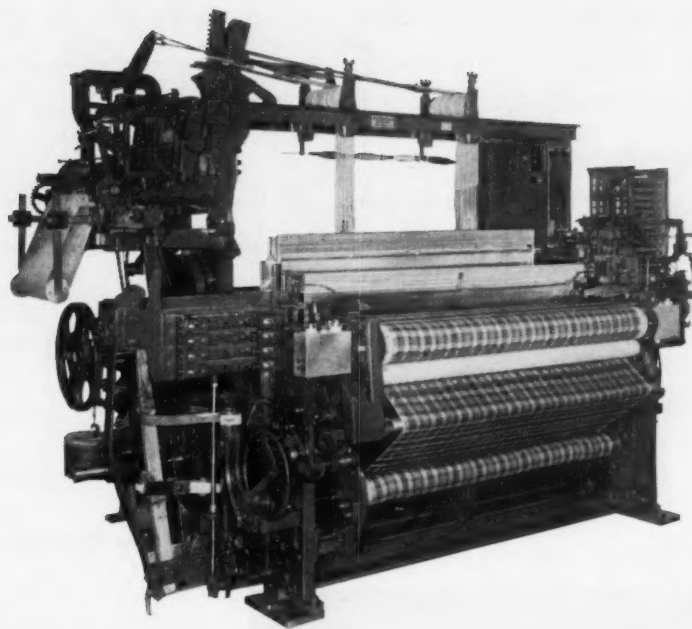
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C & K has pioneered today's most highly controlled weaving with the versatile C-7 line of looms. They have the widest selection of fabric fields to date of any loom series—terry towels, cotton dress goods, ginghams and fancy filament synthetics. The C-7 provides new benefits in each of the six basic areas to give you the competitive advantage.



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23

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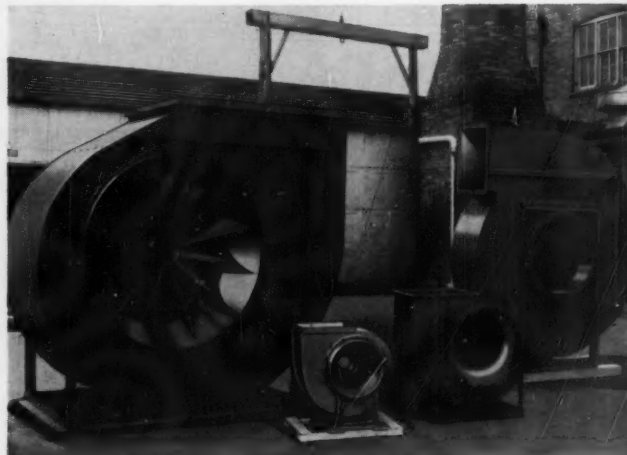
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
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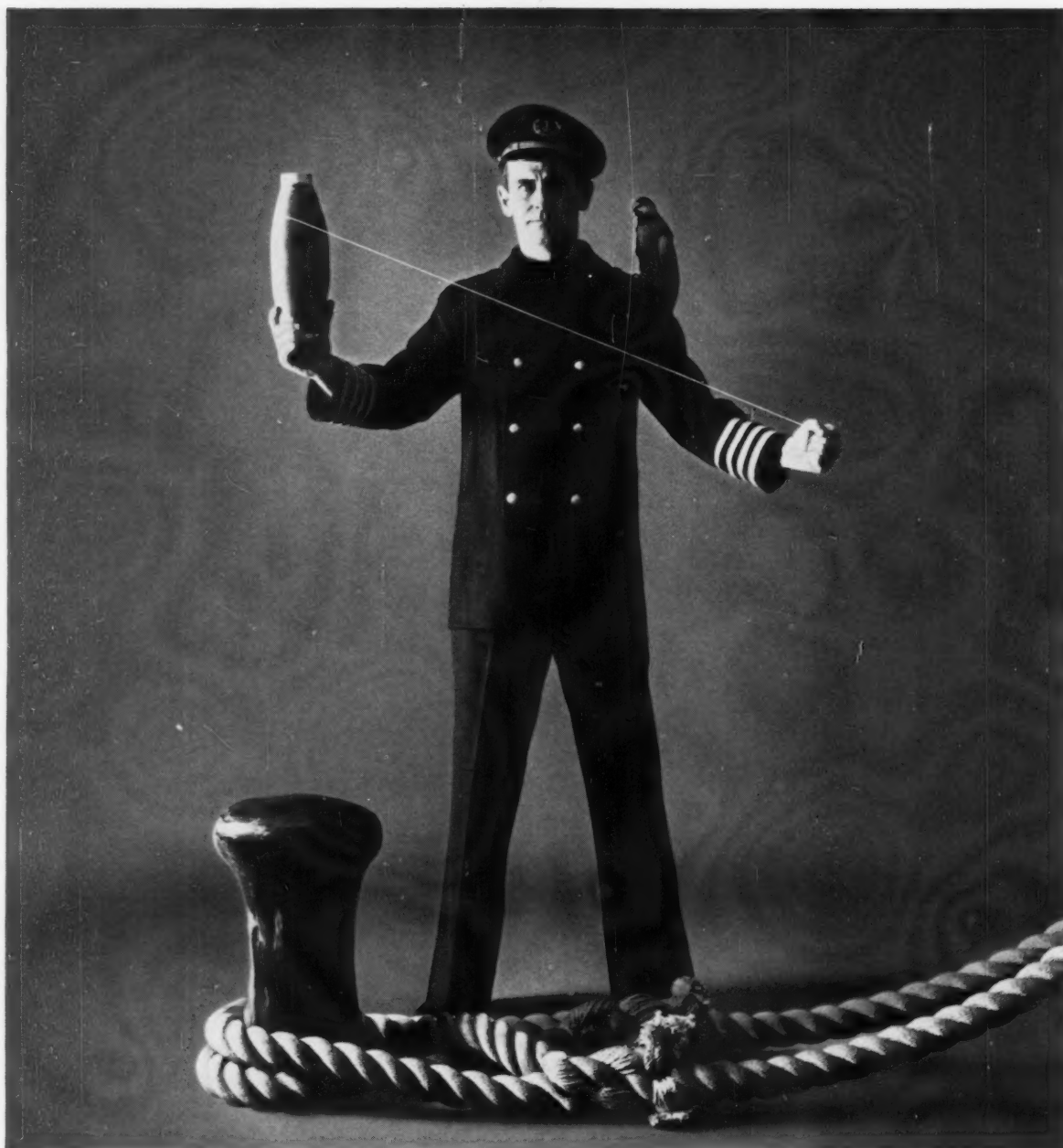
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MODERN TEXTILES

Magazine

Publisher's Viewpoint

Knitting—an expanding horizon in textiles

THIS MONTH, on the occasion of the biennial Knitting Arts Exhibition at Atlantic City, April 24 to 28, interest throughout the textile industry turns sharply toward the important field of knitting. In the vast Convention Hall in Atlantic City will be displayed for all in textiles to see the impressive accomplishments of the dynamic knitting industry. This is truly a growth area in textiles. It is a segment of our industry which with every passing year grows bigger, more complex and more successful in producing an ever-widening range of fabrics for virtually every major end use where textile products are advantageously employed.

The big knitting show this year will be bigger than ever. According to advance reports, some 200 exhibits will be mounted, and as many as 15,000 textile people are expected to go to Atlantic City to study them carefully.

As in previous years, the Exhibition is sponsored by three major trade associations in the knitting industry. These are the National Association of Hosiery Manufacturers, the National Knitted Outerwear Association and the Underwear Institute. The fact that these three associations have pooled their interests and their energies is a heartening demonstration of sensible cooperation working out for the greater good of the knitting industry. There can be no question that an important part of the success of the Knitting Arts Exhibition in recent years, the vitality and liveliness that have marked recurring shows at Atlantic City, must be attributed to the wisdom of each of the three trade groups in putting aside their narrow self-interest and joining together to sponsor this trade show that puts under one roof at one time, a wide range of exhibits of interest to everyone connected with the manufacture and marketing of knitted fabrics.

According to advance reports, this year's Exhibition promises to be especially rewarding to those who attend. There will be many new machines and examples of improvements on established machines, all aimed at the continuing eagerness of knitters to produce better, more varied, more fashionable and thus more saleable fabrics at lower cost. In a special article elsewhere in this issue, MTM's editors have reviewed the recent progress of the knitting industry and reported ahead of time some of the outstanding trends of machines and methods that will be on view at Atlantic City.

Knitting Interest Rising

More than at any time in the past, the Knitting Arts Exhibition comes at an hour when the wave of interest in knitting throughout the textile industry is mounting to new heights. It is a fact that among management men in many big textile manufacturing organizations which hitherto have confined themselves to woven goods, interest is running high in finding promising paths into the field of knitting. More and more mill managements are coming to the knowledge that, to be truly diversified in today's highly competitive market, means not merely to be diversified in woven goods. These millmen, experienced only in making woven fabrics, realize that true diversification means to be a producer of knitted fabrics as well.

The flow of new developments in knitting technology, the appearance of new knitting machines that add to the dimensions of knitted fashions, and in general the increasing importance of all aspects of knitting in the textile spectrum are proof that the textile industry is a dynamic one with continually expanding horizons of growth for those who remain alert to opportunity and are willing to take risks to achieve greater profits.

A. J. McCallough

TEXTILE NEWS



World Wide

BRITAIN'S ICI crosses channel to launch a continental drive for markets. Imperial Chemical Industries isn't waiting to see if the British-led "Outer Seven" and the European Common Market "Six" can get together. Over the next 10 years, ICI will set up a \$280 million complex, starting near Rotterdam, to produce petrochemical-textile raw materials. Construction would start early in 1962 and production—probably of polyester fibers, dyes and polyethylene bases—by 1964.

ITALY'S MONTECATINI PLANS polypropylene fiber production in the United States possibly by the end of 1962. It is expected that a wholly owned Montecatini subsidiary, Navamont Corp. of Neal, W. Va., will build a plant to make the fiber. Navamont is due to start plastic production there shortly.

TOYO RAYON READIES graft-fiber operation. The Japanese company plans to market a new viscose-acrylonitrile graft-polymerized fiber under the name of Aviron in a few months. The unusual blend will go into blankets and home fabrics. From a 15-ton start, output would rise to 100 tons a month, depending on sales.

FARBEN STEPS UP output of Dralon acrylic fiber and Perlon polyamid filament. The big German firm expects to boost Dralon output this year from 17,000 to 25,000 tons. A long-range goal of 50,000 tons yearly has been set. Perlon production would rise from 4,800 to 7,200 tons this year. Farben invested \$95 million in 1960 on Dralon-Perlon facilities and will expand a like amount this year.

INDIAN RAYON TO DOUBLE yarn capacity. The company's Madras plant will turn out 10 tons a day, in terms of 150 denier. A new rayon pulp plant using cotton linters as a raw material is also to be built. Production would start next year with ultimate capacity 15 tons a day.

PAPER BLANKETS FOR SWEDES are under development. The company, Nyboholms Bruk, near Gothenborg, is also working on a plastic-covered paper pillow case. The blanket would now cost some 40¢ for full size and 10¢ for children's size. Its throw-away characteristics would minimize hospital disease spreading. It consists of 20 layers of soft crepe paper which would be inserted in a blanket cover of linen or cotton.

BRAZILIAN FIRM gets Terylene polyester fiber patent rights from Imperial Chemical Industries.

Brasileira Rhodiaceta, which will make the polyester is an affiliate of France's Rhodiaceta, the Lyon firm which has been using the name Tergal for its fiber. The Brazil company will use "Terylene."

BELGIAN PLANT MAKING new linen yarns. The company, Linofil, is preparing the flax by a new process which no longer requires scutching in the open air but suffers no quality loss. Initially, output of the plant, near Courtrai, will go into wool carpet backing.

FLAX-ACRYLIC FIBER blend will be previewed next month at Belfast, Northern Ireland. Most acrylics cannot stand the kind of bleaching used for flax. Courtelle acrylic fiber, made by Courtaulds, has now been woven into a fabric with a specially prepared flax fiber. It will be exhibited at the Linen Industry Research Association.

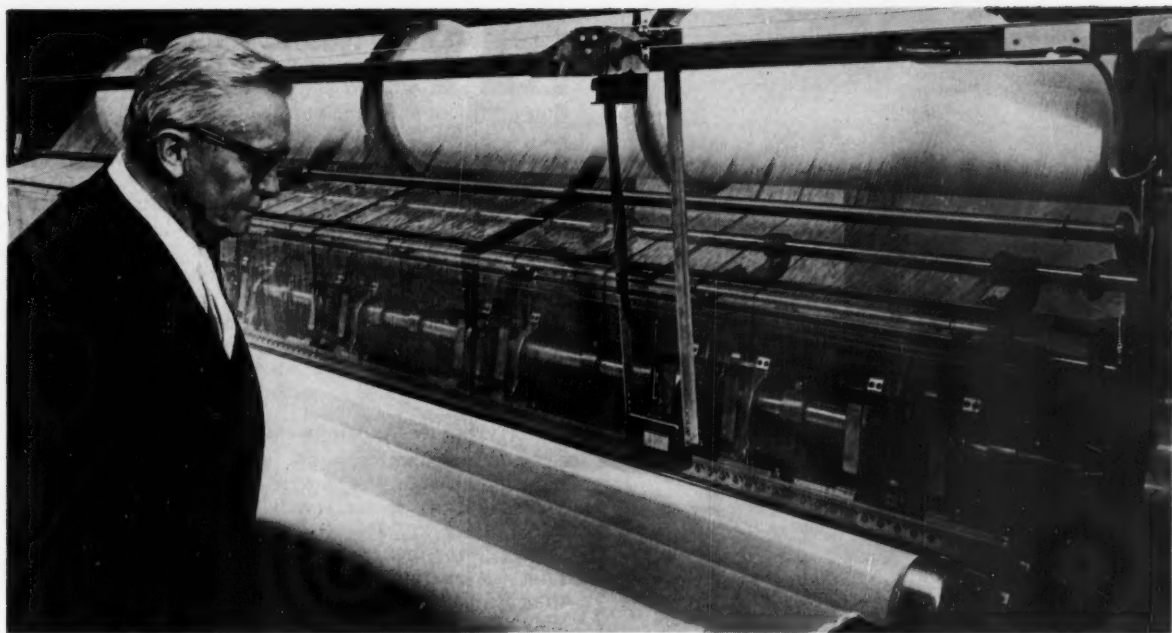
AUSTRALIAN SEES LOSS of wool market in Japan whenever manmade fiber boom arrives. Sir William Gunn, chairman of the Australian Wool Bureau, said: "In Japan, we have yet to face the battle of the fibers, because as yet competing fibers have not become established there."

VENEZUELA OPENS cotton mill said to be the most modern in Latin America. The plant, Telaresde Palo Grande, at Caricuao, has 22,000 spindles and 400 looms. It should turn out 14 million yards of cotton cloth annually.

NIGERIA TO HAVE big cotton mill. A new plant, to be located on the Ikeja industrial estate in Western Nigeria, will produce 18 million yards of cloth yearly from domestic cotton. The plant will have facilities for spinning, weaving, bleaching, printing and finishing. Barclays Bank made the announcement.

CHEMSTRAND TO BOOST acrilan capacity at its Coleraine, Northern Ireland, site by 50%, starting immediately. The plant's output target is 15 million pounds of the acrylic fiber by the end of this year, then 25 million pounds annually by the end of 1962.

TWO JAPANESE PLANTS for nonwoven fabrics reveal production plans. Teikoku Rayon will raise Tetoron polyester staple fiber for nonwovens from 26,400 to 55,000 pounds monthly. Kureha Spinning is set to offer 24,000 square yards of Bonden nonwoven fabrics soon.



MINDING HIS KNITTING—Carroll Anderson, general manager of Munsingwear's fabric output, casts a critical eye on fabric rolling out of one of the company's newest high speed tricot machines made by Textile Machine Works

At Munsingwear

KNITTING IS BIG BUSINESS

Based on knitting machines, Munsingwear turns out a varied range of apparel for both sexes. Now, with 15 modern plants, the company plans to lift its sales volume well above its current figure of \$45 million

By Jerome Campbell,
EDITOR, MODERN TEXTILES MAGAZINE

EVERY SINGLE MAN, WOMAN AND CHILD of the current population count of 180 million Americans are prospects for the big garment manufacturing firm of Munsingwear, Inc., headed by cheerful decisive George D. McConnell. And as the population soars, so do Munsingwear's prospects for more business. This enormous market is open to the company because it manufactures such indispensable garments for all sizes and ages of Americans as sleepwear, underwear, socks, hosiery, sportswear and lingerie.

Munsingwear's sales volume in 1960 was \$45 million. This year, its 75th, the company plans to work hard to add at least 12 percent to last year's total. Munsingwear is essentially a knitting outfit, mustering in its plants some 950 circular knitting machines, although it uses woven fabrics in some of its newer lines. As a knitter, it is big, and diversified. It has 15 major plants located in seven states, and six manufacturing divisions along with design studios in four locations including, of course, New York, and to reflect the important California influence in sportswear, Hollywood.

Munsingwear is not only big and far-flung and diversified: it is impressively successful. Because its earnings record is outstandingly good, investment experts hold it in high regard. And this regard was heightened last year when the company declared a 100 percent stock dividend.

Although the company makes a wide range of products—some 40,000 different items are claimed for it—there runs through this diversity a strong unifying element and that is underwear made on knitting machines. The manufacture of underwear, along with a newer line of sportswear, makes the company's men's and boy's division Munsingwear's largest, bringing in greater sales than any of the firm's five other production and merchandising units. Since Munsingwear's separation into autonomous divisions in 1957, the output of this division has doubled. Along with its production of a wide variety of underwear, the division makes sleepwear, sport shirts, socks and sweaters running currently to a sales volume of 1.5 million garments annually representing more than 1,000 different garments. When



WOMENSWEAR A MAN-SIZE JOB—Munsingwear president George D. McConnell (left) and vice president A. Byron Reed in charge of womenswear, admire one of the company's high-style lounge sets at Munsingwear's New York showroom

size and color variations are taken into account, Morgan Aldrich vice president in charge of the division, notes with understandable pride and something like awe, a total of more than 30,000 items are carried in the division's lines.

Next in volume of sales is Munsingwear's Hollywood Vassarette Division which turns out a wide range of women's foundation garments. The division, under general manager, Laurens D. Dawes, has its own sales force of specialty men and women selling to more than 5,000 retail outlets across the United States. Sales of more than 2,000 different items have increased an average of seven to eight percent during each of the three years since the reorganization of 1957. Part of this sales gain comes from increasing export and licensee operations which have resulted in business through export and licensing arrangements in Canada, Australia, Thailand, New Zealand, Denmark and the Union of South Africa. General manager Dawes, incidentally, is also executive vice president of Munsingwear, Inc.

The Hollywood Vassarette division works closely in coordinated selling with the women's and girl's division, another important segment of Munsingwear's business managed by Munsingwear vice president, A. Byron Reed. Operating, like the Hollywood Vassarette division, in the fast-changing and supercharged climate of fashion, the division manufactures and markets five full lines of garments: two nylon tricot

lingerie, one woven lingerie, one girl's line of underwear and sleepwear, and a cold-weather line of sleepwear for women and girls. Currently, the division produces and sells more than 700 different items which, when color and size variations are included, amounts to more than 6,000 different items.

Each year a minimum of 450 different basic products are introduced to replace slow-selling numbers and to kick off new fashion trends in styling and color. In recent years, the women's and girl's division has turned more and more strongly to nylon tricot. Plans for the future call for tripling the volume in nylon tricot garments in the next decade. Since the 1957 reorganization, the women's and girl's division has increased its annual volume by 25 percent.

Hosiery Big at Munsingwear

Another important and fast-growing segment of Munsingwear is the firm's hosiery division under Warren Berg, general manager. Munsingwear got into hosiery in 1920 with a wide line of socks and stockings for men, women and children. A few years later the operation was broadened still further with the acquisition of Wayne Hosiery Mills of Fort Wayne, Indiana. Early in its venture, into hosiery, Munsingwear gained a big sales advantage with its development of proportioned fit styling which today remains one of the company's major product advantages. Another pioneering development of Munsingwear in hosiery has been Slenderella, a shaded stocking designed to flatter women's legs by making them look slimmer. The process requires shading the stocking on both sides to make them look darker, thus creating the illusion of slimness—an idea borrowed from professional make-up artists who work with cosmetics on the legs of movie, stage and TV actresses. Although the finishing techniques developed by Munsingwear for its Slenderella stockings add more than 30% to the manufacturing costs, sales have been steadily increasing since these stockings were introduced in the fall of 1958.

Other Munsingwear innovations in hosiery have been the stretch top on seamless stockings first introduced in 1953, and the cotton sole seamless stocking brought out in 1958. Munsingwear's hosiery is produced in plants in Oklahoma and Arkansas which turns out some 1,800 items in a variety of 24 colors. Hosiery sales have increased more than 20% annually since the 1957 reorganization.

Special Flight Garments

Another Munsingwear division, the David Clark Co. of Worcester, Mass., of which David M. Clark is president, was acquired in 1941. Its principal products are brassieres and girdles for mass-selling retail outfits. But the company is also distinguished in another, far different way. It manufactures "G" or anti-blackout suits to protect military aircraft pilots at extreme altitudes and very high speeds. Its work in this field has been so successful that Clark has been selected by the U.S. Government to equip all pilots of the experimental X-15 plane with protective anti-blackout suits. The company has also been successful in manufacturing sound protectors to safeguard the hearing of persons exposed to extreme noise in both military and industrial work.

Munsingwear began its existence in Minneapolis in 1886 as Northwestern Knitting Co. Its leading organizer was George D. Munsing, a man with a great

(Continued on Page 50)

Are you planning to make

WOVEN STRETCH FABRICS ?

Watch these points to get optimum cloth

By Prentice M. Thomas

PRENT THOMAS TEXTILE CONSULTANTS

WOVEN STRETCH FABRICS—almost certain to transform the U.S. textile market in the next two to five years—are ushering into mills a whole set of new designing, manufacturing, and finishing techniques. Because of the wide variations of effects possible in texturing the yarns themselves and the broad adaptations for special uses possible in finishing the woven fabrics, these new fabrics are creating both opportunities and problems never before faced by weaving mills.

The first problem is analysis of a fabric. With standard fabrics, any fabric technician can analyze a given fabric and come up with an accurate account of ends and picks, yarn numbers, and twists, that makes it easy for a mill to duplicate the fabric.

That does not hold true with stretch fabrics. While almost any capable technician who understands these new yarns can make almost any fabric desired, the time-honored method of directly copying a fabric is extremely difficult. He cannot tell with certainty what stretch yarn or yarns were woven, how much stretch was removed from the original yarns in the manufacturing processes, and exactly at what percent of stretch the yarns were stabilized in finishing. So far, adequate test methods and standards have not been devised to make such duplication possible.

This characteristic of these fabrics offers fabric-developmental protection that mills have never had before. It also multiplies a mill's problem in trying to duplicate someone else's fabrics that are riding a market wave.

The second problem is designing a successful fabric. The very characteristics, texture and stretch, that open up new fabric vistas create new problems of designing to attain the desired texture, hand, and pattern. Of critical importance is designing for optimum filling pickage. If pickage is too heavy, the desired texture effect is lost and a flat fabric results. If pickage is too light, holes and cracks result. Above all, the designer must know the characteristics of the stretch yarn he is using and exactly what will happen to it in his manufacturing and finishing processes. Stretch can be easily reduced, destroyed, or nullified in processing. The designer must design a fabric in which the stretch of the yarn is carefully balanced against the resistances to stretch met in weaving and boil-off.

At every step of processing, both manufacturing and finishing, probably the most critical factor is accurate control of tension. Only a small amount of pull on a single stretch yarn will remove the stretch. If tension is too strong at any process—quilling, filling winding, slashing, weaving, or boil-off—the yarn stretch will be removed or reduced and the resulting fabric will not have the desired stretch.

Several manufacturers are developing more accurate tension-control devices specifically for stretch yarns, but most mills now working with woven

stretch fabrics protect yarn only by extremely careful processing. In quilling, winding, and weaving (and slashing, if warp-stretch fabric is woven), tension on the yarn must be kept at a minimum to control the yarn and permit the machine to run efficiently. In any given mill and with any given fabric, considerable sampling and finishing may be necessary to work out techniques and compensations to obtain a satisfactory fabric.

Shuttle tension in weaving is one element that gives some mills trouble. Such cloth defects as bands, barré, flatness, cracks, holes, washboard effects, "grinning faces," and "bird's-eyes," can result from uneven tension arising from several causes, among them:

Improper furring of the shuttle.

Winding tension varying from one bobbin to another.

Improper warp tension, particularly at the selvages.

Some mills making stretch fabrics consider the boil-off the single most critical process in woven stretch fabric technology. It is in this process that the finished stretch of the fabric is set. Accurate control of tension on the stretch direction of the fabric and on heat during the drying process determine the final stretch character of the fabric.

As pointed out in the previous article of this two-article series, the possibility of varying the fabric finish is one of the greatest advantages of stretch fabrics. A mill can stockpile a basic fabric and by varying finishing techniques market a range of fabrics finished for different appearances, effects, and stretch.

Any mill considering weaving and finishing stretch fabrics should understand fully that these textured yarns are a new type of yarn, never before woven. They offer tremendous new opportunities and in a few years may even pose a serious threat to many present staple markets. But they require a new technology in designing, manufacturing, and finishing. Techniques, particularly the whole technology of tension, must be adapted to the characteristics of new yarns and new fabrics, possessing entirely new life and functionalism.

Seat Cover Fabrics Code

The Automobile Seat Cover Association of America has prepared and recommended for use a quality definition code for seat cover fabrics. Although tentative only and not binding on anyone in the industry, the code outlines minimum requirements for woven fabrics and plastics (clear, pigmented, supported film, and coated fabrics). Copies of the code may be obtained from the association, 159 E. Chicago Ave., Chicago 11, Ill.

Non-cellulosic output reaches a new high

1960 U.S. manmade fiber production

OUTPUT OF MANMADE FIBERS and yarns in the United States last year totaled 1,884,400,000 pounds. This was a drop of 4% from the record production of 1,959,500,000 pounds turned out in 1959. In 1961, output of all cellulosic fibers fell off, while production of non-cellulosic and textile glass fibers increased. These facts as well as the following data were released recently by the Textile Organon, statistical bulletin of the Textile Economics Bureau, Inc.

United States production of rayon and acetate last year totaled 1,028,500,000 pounds, a figure 12% under the 1959 total of 1,166,800,000 pounds. The output of acetate filament yarn at 228,200,000 pounds was off ½ of one per cent compared with the previous year, while acetate staple and tow at an estimated 60,000,000 pounds declined 14%.

or 3% over 1959. Textile glass fiber output of 178,800,000 pounds was 31,400,000 pounds or 21% more than that of 1959. All three of these fibers were at new all-time high production levels.

U.S. consumption of rayon and acetate in 1960 amounted to 1,055,300,000 pounds, off 15½% from 1959. The consumption total last year was made up of producers' domestic shipments of 993,800,000 pounds, off 12½% from 1959, and cellulosic fiber imports for consumption at 61,500,000 pounds, off 48%.

Breakdown of Non-Cellulosic Figures

United States producers' nylon shipments to the domestic market last year totaled 376,100,000 pounds, while acrylic and modacrylic staple and tow domestic shipments were 116,000,000 pounds. All other non-cellulosic manmade fiber shipments amounted

U. S. Manmade Fiber Production*

(in millions of pounds)

	1958	1959	1960
RAYON			
regular tenacity filament yarn	148.6	175.9	147.0
high tenacity filament yarn	264.5	332.2	279.3
staple fiber and tow	324.2	359.1	314.0
ACETATE			
filament yarn	222.6	229.6	228.2
staple fiber and tow	75.0	70.0	60.0
NON-CELLULOSIC**			
filament yarn	320.0	412.1	437.3
staple fiber and tow	170.5	233.2	239.8
TEXTILE GLASS FIBERS***	103.8	147.4	178.8
TOTAL MANMADE FIBERS AND YARNS	1,629.2	1,959.5	1,884.4

* Data in this tabulation is from the February, 1961 issue of the Textile Organon bulletin of the Textile Economics Bureau, Inc.

** This category is sometimes called the "newer synthetics" or the "true synthetics" to distinguish the fibers included in it from rayon and acetate which are made of cellulose. It includes the nylons, the acrylics, the polyesters, the olefins, saran and other fibers.

*** Readers should keep in mind that a very large proportion of extruded glass in fibrous form is accounted for under this heading, but does not find use in conventional textile form as woven or knitted fabrics. Much of it is used to reinforce plastics and other non-textile materials.

Production of high tenacity rayon yarn last year totaling 279,300,000 pounds was 16% under the previous year and output of regular and intermediate tenacity rayon yarn at 147,000,000 pounds also was down 16% while rayon staple at 314,000,000 pounds was off 12½%.

Non-cellulosic filament yarn and monofilament output in 1960, according to the ORGANON, amounted to 437,300,000 pounds, an increase of 6% over the 412,100,000 pounds in 1959. Non-cellulosic staple and tow last year came to 239,800,000 pounds

to 116,400,000 pounds, bringing the total domestic non-cellulosic fiber shipments to 608,500,000 pounds or 4% more than 1959. Producers' exports of all non-cellulosic fibers at 58,500,000 pounds last year increased 38% over the 1959 total of 42,200,000 pounds.

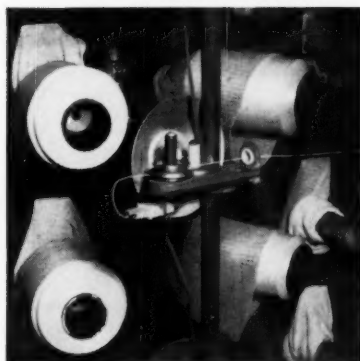
Preliminary data on world production of rayon and acetate in 1960 indicates that global output was 5,690,000,000 pounds, an increase of 2% over the previous record of 5,560,000,000 pounds turned out in 1959. ■

"No more tight ends in our warps"

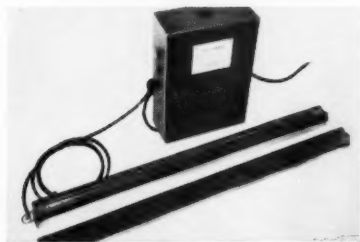


Photo of Yarn Inspector, Electrotense and Static Eliminator at Wm. Skinner & Sons

The LINDLY Electronic Triumvirate Gets the Credit **YARN INSPECTOR - ELECTROTENSE - STATIC ELIMINATOR**



Closeup of Electrotense in creel.



Lance Static Eliminator — not visible in installation photo.

When we asked William Skinner & Sons, Holyoke, Mass. for a report on their installation of a Lindly Automatic Warp Yarn Inspector, the Lindly Electrotense in their creel and a Lindly Static Eliminator, their answer was prompt and enthusiastic: "No more tight ends in our warps."

However, when we asked them to go back temporarily to warping without the Lindly controls, so we could get some comparative "before" data, they flatly refused. "Why should we go through that again, when we don't have to?" they asked, and we can't blame them.

Since Skinner didn't need comparative data to prove the value of the Lindly Electronic Triumvirate, we doubt if you would either. So why not try an installation? Here's what the triumvirate is and does:

THE LINDLY AUTOMATIC YARN INSPECTOR is a high-speed, ultra sensitive photo-electric instrument for detecting yarn defects in warps, such as broken filaments, strip-backs and fluff balls. It can be made to operate a counter, a signalling device, or to actuate a machine stop switch — singly or in combination for any degree of imperfection.

THE LINDLY ELECTROTENSE for warp creels, winders, twistors, knitting machines, etc. provides completely uniform tension for any number of ends and the tension for all ends can be varied by turning only **one** dial. It consists of two conventional discs with an electromagnetic coil beneath. The lower disc is of non-magnetic brass, while the upper disc is of magnetic iron. When the coil is energized through a central electronic control, the upper disc is attracted downward, pressing the yarn between it and the lower disc in any degree desired. The pressure is pulsating, which prevents backup of twist and helps keep the tension discs clean and free turning.

LANCE STATIC ELIMINATOR, made in a variety of models, has a textile application wherever static electricity is a problem. It carries a high voltage discharge from pointed electrodes into the air, causing the fibre to be surrounded by ionized air, which serves to discharge the static electricity accumulated all around the surface of the fibre. Whereas the voltage is high enough to ionize effectively the air, it cannot harm the operator, who accidentally comes in contact with the electrodes.

See Lindly Electronics Products at Foster Booth 43, Knitting Arts Exhibition.

FOSTER MACHINE COMPANY
ELECTRONIC SALES DIVISION, DEPARTMENT MTM-4

Westfield, Massachusetts, U.S.A.

Southern Office, Johnston Bldg., Charlotte, N. C.

468-0

Introducing the

LOMBARDI

PATTERN WRAP MACHINE *

PATENTED

*For Fabrics like none that
have been knitted before.*

Combining the best features of
woven goods with the added
warmth and draping found only
in fine knitted fabrics.

Patterns up, down and across
in unlimited combinations of
designs, colors and textures.



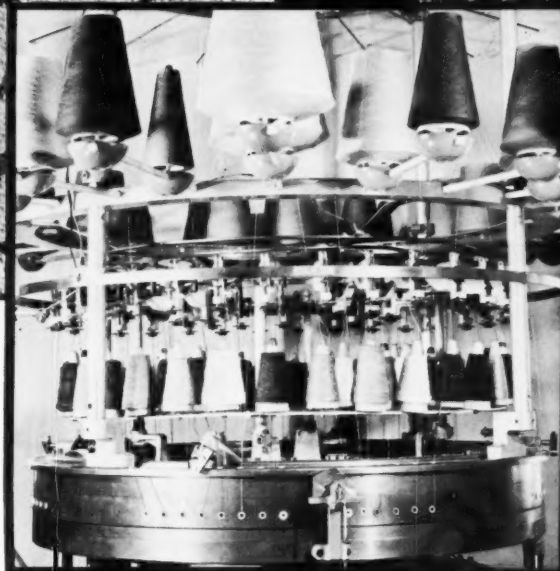
Atlantic City

Booth

561



LPW



26" Diameter

32 Feeds

18 Cut

**Stationery
Cylinder**

45 Wrap Fingers

**Pattern Wheel
Needle Selection**

**4 Finger Striping
Boxes**

Electric Stop Motion

The heart of the LPW is a patented superstructure, housing the unique "Wrap-around" elements for introducing effect yarns to groups of selected needles.

The patented LOMBARDI Pattern Wrap circular knitting machine represents a radical departure from existing techniques for incorporating both "Sculptured" and/or smooth design effects in jersey fabric.

The LPW will produce an impressive array of fabrics combining textured surface interest, patterning scope and multi-color schemes in an infinite variety of striking arrangements.

WITHOUT ANY CHANGE OF THE KNITTING MECHANISM, the LPW produces innumerable types of fabrics: Suiting, Outer Wear Garments, Swimwear and Upholstery in popular weights. All types of natural and synthetic yarns can be used.

Unusual effects are obtained with Metallic, Knop, Slub, Mohair and Chenille yarns.

SCOTT & WILLIAMS, INC.

MAIN OFFICES & PLANTS, LACONIA, NEW HAMPSHIRE

Sales Office: Empire State Building, New York 1, New York

Divisional Offices: High Point, N. C., Camden, N. J., Rossville, Ga.

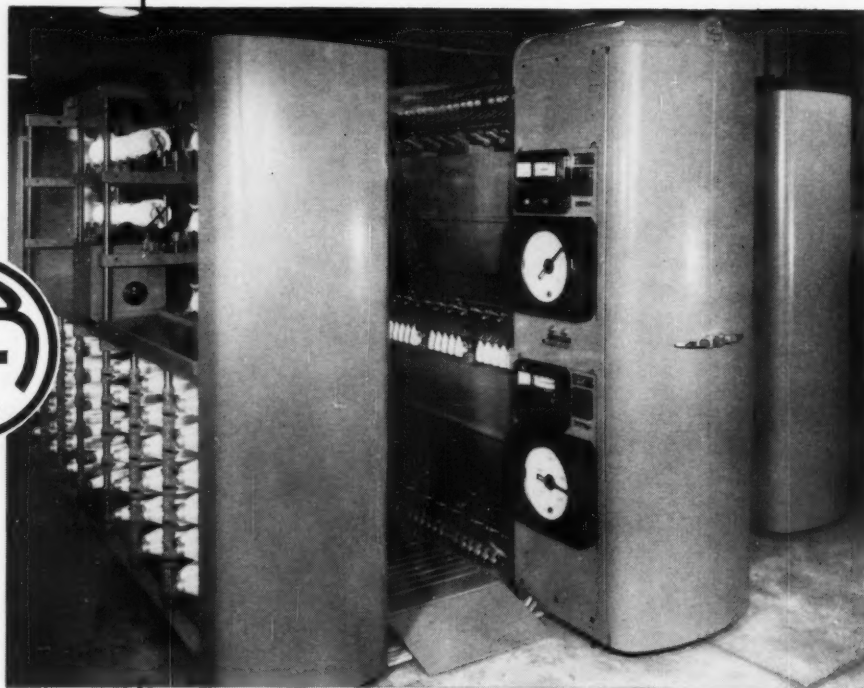
See it at

Booth 561

**START
RIGHT
and you'll
"FINISH"
RIGHT!**



* Whitin Machine Works is the exclusive licensee of A.R.C.T. in the United States, Mexico and Canada. FT and FTF machines are manufactured by Ateliers Roannais de Constructions Textiles, Roanne, France.



with textured yarns processed by Whitin-ARCT.*

Start with the unmatched quality found only in ARCT precision-controlled yarns — and watch your "finishing" troubles vanish — in either knitted or woven textured fabrics.

The ARCT Type FT machine, introduced only two years ago by Whitin, has already made a great impact on American throwsters with the quality of its false twist and stretch yarns for knitting — quality unsurpassed for uniformity, elasticity, crimp-retention and level dye affinity.

Now, to the exciting and expanding field of woven textured fabrics, Whitin brings a great new companion machine, the ARCT type FTF for the processing of "modified" yarns with the same "golden touch" of quality. Built with the same

critical care — the FTF features the same precision in yarn control — the same exactness in mechanical and thermal controls — eliminating the possibility of variables being present during yarn processing — even holding spindle-to-spindle heat variation to a hard-to-believe $\pm 1^{\circ}\text{C}$.

FTF processed yarns, characterized by outstanding dimensional stability and maximum bulking, may be precisely tailored to your product requirement.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

See the FTF machine at Booth 1005 — Knitting Arts Exhibition • Atlantic City • April 24-28

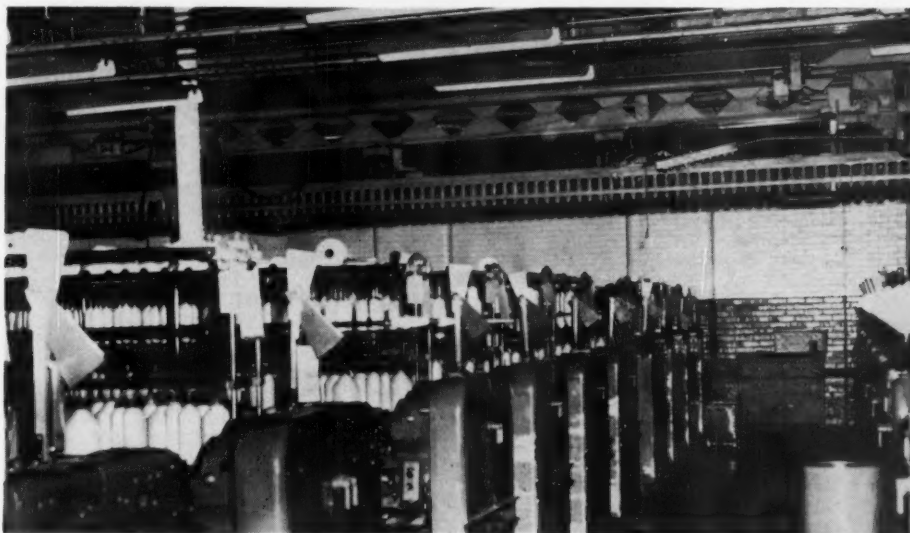
Overhead unit doffs entire frame at one time

Milliken's new traveling
doffer serves 24 spinning
machines at Drayton Mill

Staff Prepared

A TRAVELING OVERHEAD automatic spinning frame doffer which removes loaded spindles from an entire frame and replaces them with empty bobbins was demonstrated recently at Drayton Mills, Spartanburg, S. C. The automatic doffer is a development of Deering Milliken Research Corp. At Drayton, the doffer is functioning under commercial manufacturing conditions and is serving 24 spinning frames in one bay of Drayton's spinning room. These are warp frames each with 288 spindles, 3½ feet gauge. Average yarn count in the bay is 40's cotton with a doff cycle of about 10½ hours. Approximately 100,000 spindles a week are being doffed on a three-shift basis by ordinary mill workers.

OVERHEAD TRAVELER—
This view of
the spinning
room at Drayton
Mills shows the
Milliken Doffer
positioned above a
spinning frame at
the extreme rear



HOW IT WORKS—This close-up shows full bobbins just picked up by the doffer and empty bobbins being lowered into place on spindles

The automatic doffer moves over the frames on rails suspended from the ceiling. Its speeds are 135 feet a minute lengthwise and 25 feet a minute crosswise in the bay. The maximum track ceiling hangar load is about 3,400 pounds on 10½ inch centers. Milliken spokesmen said that, depending upon specific spinning room conditions, the headroom required for an installation of the Milliken doffer will range from 27 feet to 44 feet.

The doffer automatically seeks out and locates itself over each spinning frame from five to ten minutes before time for doffing. All 288 spindles on the frames at Drayton are doffed simultaneously. New bobbins are then placed on all spindles at one time.

(Continued on Page 40)

Normal and reverse twist yarns are doffed with equal facility. Spindle separators do not have to be turned to allow the doffer to function.

Detailed records made at Drayton of operating performance on the doffing of 3 million spindles reveal that average ends down per frame doff is 11, and that average frame down time for doffing by the new machine is two minutes.

Milliken spokesmen also pointed out that the automatic doffer also fills a major materials handling function. Full bobbins are automatically transported by it to a load and unload station where they are placed on a conveyor. In the same action at the same station, the doffer is reloaded with 288 new empty bobbins while simultaneously all 288 full bobbins are deposited on the conveyor. The doffer is then ready to move into position to perform the next frame doff.

At Drayton, an installation of bobbin-sorting equipment, developed specifically for the Milliken automatic doffer, sorts, arranges and distributes more than 100,000 bobbins per day to the load and unload stations. Electrical power required for the operation of the doffer is as follows: doffing function-3 horsepower; frame and ceiling fans-16 horsepower; bobbin sorting-2 horsepower; load and unload station-one horsepower.

In a statement made at the time of the Drayton demonstration, Roger Milliken, head of Deering Milliken, said that it was another conclusion of Deering Milliken Research Corp. that the way to make the best cotton yarn is to draft and spin it directly from sliver thus eliminating the roving process. "Previously one of the great obstacles," he said, "preventing adoption of sliver-to-yarn spinning has been the fact that there has not been a completely

acceptable means for conveying the cans containing the sliver to and from the creels of the spinning frame. Our studies have shown that the same mechanism which constitutes the Deering Milliken automatic doffing process can be adopted in the new mill to automatically creel the spinning frames with cans of sliver economically."

Milliken said that Drayton's management is so pleased with the installation of the automatic doffer that it has authorized the purchase of coverage for an additional 24,000 spindles and the Abbeville Mills has also authorized its management to purchase coverage for another 25,000 spindles. He revealed that the Research Corp. is currently negotiating with several companies which have expressed an interest in developing and marketing the automatic doffer, and that a decision will be made shortly as to which one will be chosen.

Milliken also revealed that plans are under study by Deering Milliken Research Corp., in collaboration with a number of other mills affiliated with the Institute for Textile Technology, Charlottesville, Va., for the construction of a 10,000 spindle cotton mill which would incorporate the most modern thinking that could be assembled and applied to the textile yarn-making process. "Specifically, we have reached the conclusion," Milliken said, "that machine handling of materials is not only most desirable but also possible. We know from the work of ITT that with each handling of the cotton fiber there is a possibility of degrading the basic strength inherent in the raw cotton fiber and of lowering the uniformity of the resultant cotton yarn. We know that mechanical means of presenting the stock to and from each process, together with precise control of the process itself, will minimize these damages."

Draper Shuttleless Loom Progress

About 1,800 of Draper Corp.'s DSL (shuttleless) looms currently are in operation on certain medium and coarse fabrics in 15 mills, Thomas H. West, Draper president, stated in the firm's annual report. Widening the range of this machine to provide the versatility required in the textile industry continues to be the firm's major effort in research and development, he said. West said that not until this is achieved "can we look forward to production of this loom in profitable volume."

Research and development on conventional type looms also is continuing. Orders for Draper's new multi-purpose X-3 model loom, introduced in the latter part of 1960, accounts for a large share of the firm's backlog.

West stated that last year a wholly-owned subsidiary, Marion Industries, Inc., was established to manufacture certain of the firm's loom components in the South. A 50,000 square foot plant has been completed in Marion, S. C., and installation of machinery begun early this year. A major rearrangement of the firm's Hopedale facilities, begun in 1960, is expected to yield worthwhile savings in manufacturing costs when completed in 1961.

Italian Crimped Yarn Patents

A court in Milan, Italy, recently ruled that certain patents on crimped yarn processes are invalid, according to an announcement by Ernest Scragg & Sons, Ltd, Macclesfield, England. The Italian patents affected by the ruling are Nos. 496,065, 518,767 and 541,521 entitled "Process and Device for the Obtain-

ment of Crimped Yarns," held by the French firm of Moulinaie et Retorderie de Chavanoz.

Scragg also stated that, as a result of the suit brought against it by the French firm, Scragg has been absolved from any claims that its machines infringe on the rights of industrial property arising in Italy from these patents. The judgment of the Italian court is subject to appeal.

New Polyolefins Unit

Hercules Powder Co. is starting construction of a second multi-million-dollar polyolefins unit at Lake Charles, La.—doubling the size of the plant, the first unit of which was scheduled to go on stream in February, 1961. Ultimate capacity of the completed facility will be in excess of 100 million pounds annually. Expansion of the Lake Charles plant, even before it had begun operating, is said to result from an increasing market acceptance of both Hi-fax linear polyethylene and Pro-fax crystalline polypropylene.

Vycron 'Worsted Look'

Vycron polyester fiber is being woven into fabrics for the worsted look without special processing to overcome slickness, mill officials report. Extensive experimentation in Vycron-rayon and Vycron-wool blends are taking place at several mills, including Deering Milliken and J. P. Stevens. One of Vycron's advantages for end use in worsted blends is said to be its relatively pill-resistant performance. Vycron, produced by Beaunit's Fibers Division, is spun from Vitel, a polyester resin produced by Goodyear.

There's a little bit of Turbo in everything she bought!

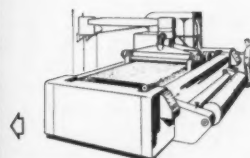
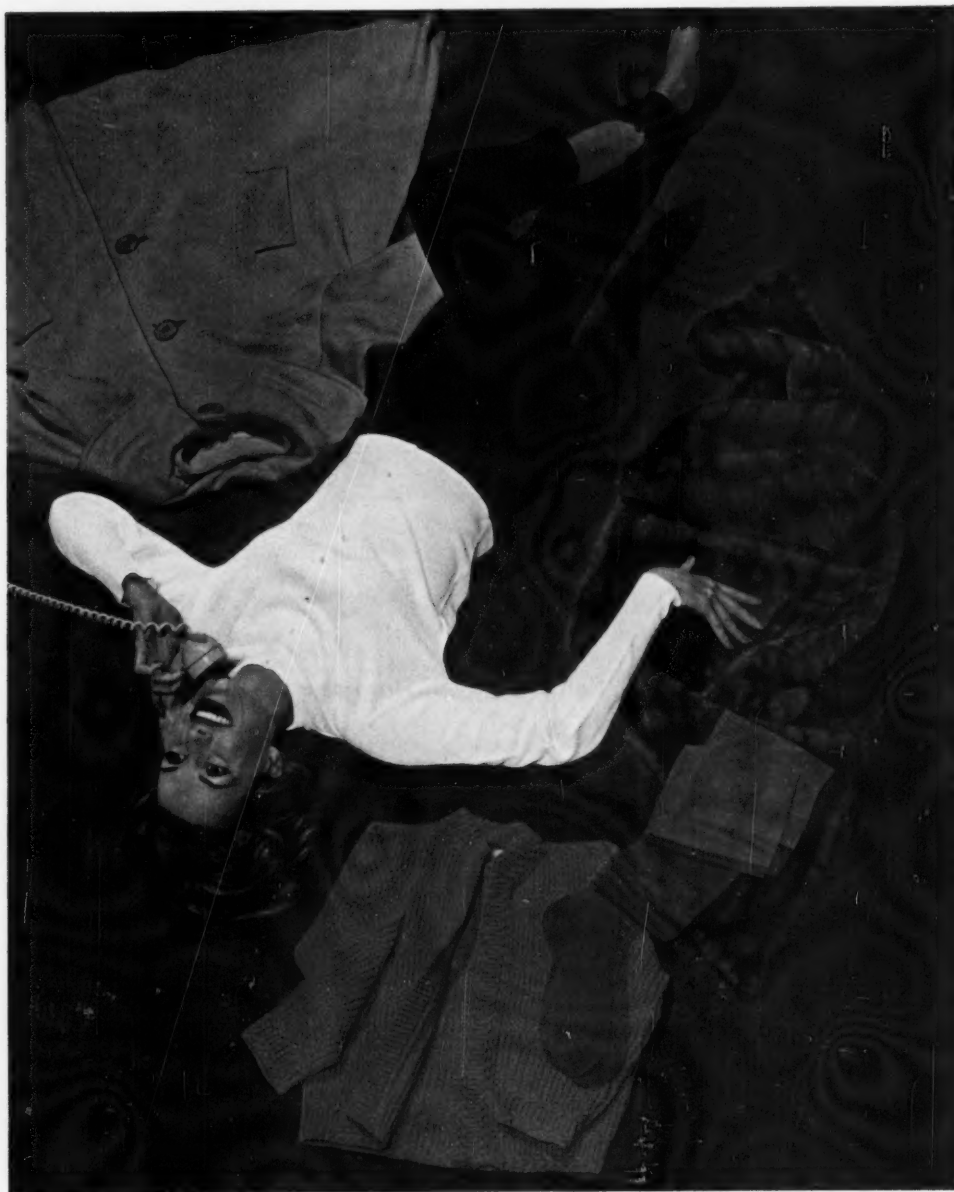
She loves beautiful things . . . sheer, delicate hosiery . . . the delightful warmth of high-bulk sweaters . . . the soft touch of fur-like fabrics . . . richly finished woollens . . . plush, carefree carpeting, draperies, upholstery . . .

Turbo machines bring out the beauty in your fabrics — in fiber production, spinning, knitting, weaving, dyeing, and finishing. Almost all the leaders in the textile industry talk to Turbo first. Shouldn't you?

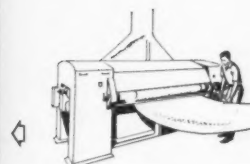


TURBO MACHINE COMPANY, LANSDALE, PA., U.S.A.

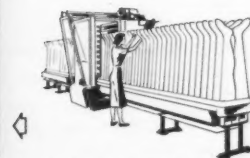
Telephone: Ulysses 5-5131



Excess handling is eliminated and shearing costs are reduced for carpet manufacturers through the Turbo Cross Shearer.



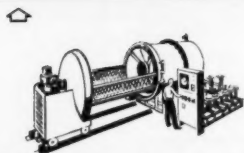
Turbo Electro-Finisher gives woollens, wool-blends, high pile and fur-like fabrics rich vibrant lustre and soft appealing hand.



For hosiery, the Turbo Dye Boarder combines preboarding, dyeing, post boarding, and drying in one processing operation.



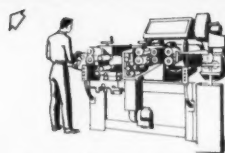
The Turbo Package Dyeing Machine is one of a complete line of engineered machines for dyeing, drying, extracting, and finishing.



Yarns and fibers are heat set in Turbo machines with capacities from 1000 lbs. (illustrated) to 60 lbs. per cycle.



Sweaters are "set for sales" on the tray-type Turbo Fiber Setter.



High bulking on Turbo Staplers, and Turbo Fiber Setters is the shortest route to synthetic fiber spinning.

TURBO

Something new: All-wool stretch fabrics

A new finishing process which changes the molecular structure of worsted fabrics so as to give them a fair degree of stretch was introduced recently by Timely Clothes, Inc. According to Leslie A. Runton, president of Timely, the new 100% wool stretch fabrics when used in men's suits will permit a more snug-fitting garment that will conform to body movements and will require pressing only after dry-cleaning. He also asserted that garments cut from the new stretch suitings will preserve a "new look" even after months of wear. Timely Clothes has applied for patents on the new process.

Runton said that the stretch properties are imparted to the fabric by using yarns of a specified twist, weaving them with more space between the warp ends than is the practice with ordinary worsteds, and then subjecting the resultant fabrics to a special heat setting process which also involves the use of certain chemicals which he declined to name. Suits made by Timely with the new stretch wool fabrics will be available at retail this fall at a cost which may be about \$5 more than for suits cut from ordinary cloth.

Other advantageous properties of the new wool stretch fabrics cited by Runton are: freedom from pilling; less moisture absorption with resultant better press retention; ability to go back into shape when subject to distortion at heavy wear points such as knees, elbows, and seats of trousers.

To make the new fabrics, Runton said that cloth can be woven to Timely's specifications by worsted mills and then subjected to a special heat-setting process with equipment housed in Timely's plant at Rochester, N. Y. The process was developed by Runton, an experienced textile engineer who had extensive experience in textile research work before joining Timely Clothes. He is a former chairman of the Textile Division of the American Society for Mechanical Engineers. He stated that Timely may license others to produce the fabrics and to use them in garments.



STRETCHY WOOL—This double exposure photo shows how Timely Clothes' new 100% wool fabric stretches when pulled

Japanese Ask "Fair Treatment"

If the U.S. intends to ask Japan to continue its voluntary self-imposed quota on cotton textile exports to this country, an effective way of treating Japan fairly must be found, according to Takeshi Morimoto, chairman of the board, Association of Japanese Textile Imports, Inc., New York. Japan will shortly announce its export quota to the U.S. for 1961, the last year of the voluntary 5-year agreement limiting Japanese cotton textile exports to this country.

Morimoto pointed out that while the Japanese portion of the U.S. cotton textile import market dropped from 76.2% in 1956 to 18.8% in 1960, quota free nations substantially increased their share of this market over the same period.

Du Pont's Carpet Nylon

On the second anniversary of Du Pont's introduction of 501 carpet nylon, introduced at the Chicago Home Furnishings Market in January, 1959, almost 10 million square yards of carpet containing the textured continuous filament fiber have been sold. The carpeting would equal about 830,000 rugs measuring 9 by 12 feet. Nine firms—Barwick, Bigelow, Cabin Crafts, Callaway, Lees, Monarch, Patcraft, Alexander Smith and Wunda Weve—now make carpets of Du Pont's 501 nylon.

Belgian Rayon Dumping Charged

The United States Tariff Commission has instituted an investigation concerning rayon staple fiber from Belgium that is being, or is likely to be, sold in this country at less than fair value. Under provisions of the Antidumping Act, 1921, the commission will seek to determine whether an industry in the U.S. is being or is likely to be injured, or is prevented from being established, by reason of the importation of such merchandise into this country. No hearing in connection with this investigation has been ordered. If a hearing is ordered, due notice of the time and place will be given.

Permachem in Textiles

Permachem Corp.'s permanent germicide-fungicide, Permachem, is now being incorporated into a wide variety of textile products. The producer reports Permachem demonstrates a strong ability to bind with certain types of natural and synthetic fibers. If a cotton, wool or nylon fiber is treated with Permachem in its original state, the treatment is said to kill germs of all types, as well as fungi, on contact. More important, the company states, it will continue to kill them the moment these germs impinge upon the treated surface. Consequently, textiles can be kept free of mildew, rot and odor that are caused by these bacteria and fungi, according to Permachem.

DYEING and FINISHING SECTION

THE UNTOUCHABLES



(audio)
**No one can touch
Butterworth**

(audio)
**when it comes to
solving dilemmas**



(audio)
**in synthetic fib-
er production.**



(audio)
**Butterworth inves-
tigates the problem**



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**and uses research
and experimentation**



(audio) **...consults with
chemists and
dyehouses**



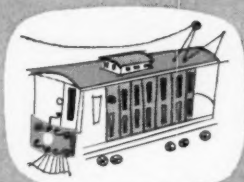
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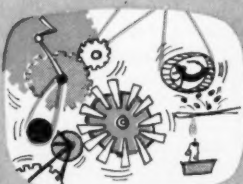
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and finishing.**



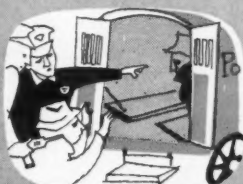
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**Then, Butterworth en-
gineering and experience**



(audio) **starts building
a machine or com-
plete range**



(audio)
**that eliminates
the trouble.**



(audio)
**If you're
in a jam...**



(audio)
**Buzz Butterworth!
(Waverly 7-1020)**

BLEACHING
PRINTING
SPECIAL
PROCESSING

BUTTERWORTH

... untouchable in synthetic fiber machinery



H. W. BUTTERWORTH & SONS COMPANY
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BETHAYRES, PA. • SINCE 1820

In the South: Industrial Heat Engineering Co., Greenville, S. C.
In the North: United States Supply Co., E. Providence, R. I.

NEW, IMPROVED DYES OFFERED

**Better performance promised
on polyesters, cottons, rayons**

NEW DYES FOR COLORING polyester fabrics, and cotton and rayon goods were introduced recently by three dyestuff manufacturers.

For polyester goods a new group of colors, trade-named Amacron dyes, are offered by the chemical and dyestuffs division of Koppers Co., Inc. The new line of colors is available in 14 shades. Advantages of the new colors cited by Koppers are: outstanding brightness combined with a high degree of fastness to light, washing, crocking, sublimation and perspiration. Koppers also asserts that the new colors have higher tinctorial value; greater brightness in blends with cotton and viscose rayon; level dyeing properties with complete exhaust; good dispersion; ability to combine with other shades, blends and combinations, and to build up shades without crocking.

Koppers said that, because of their fastness properties to sublimation, the new Amacron colors may be applied by the heat cure method (Du Pont's Thermosal Method) and lose none of their brilliance. In pressure dyeing, the dyes can be applied without carriers.

The Amacron colors are offered as insoluble powder dyes with high dispersion. Water filter tests are said to show practically no dye specks. For dyers who wish to apply colors with a padder, Koppers also offers its Amacron range in liquid form which is said to be completely speck-free.

Another feature claimed for the Amacrons is said to appear in the dyeing of blends of polyester and cellulosic fibers. The Amacron colors, Koppers asserts, leave the cellulosic fiber virtually unstained, thus making it possible to fill in cotton or viscose with appropriate matching or contrasting colors. The dyes are also appropriate for printing by roller or screen printing, in that they are said to give speck-free prints and are fast to sublimation during steaming.

At a press meeting in New York City arranged by Koppers, William Triplett, speaking for the company, discussed the function of polyester dyes. He said that a dyestuff to be suitable for polyester fibers must withstand wet processing, light, sublimation, and crocking. By wet processing, he said, we mean washing and drycleaning and also the exposure to perspiration. Drycleaning solvents may extract dye from polyester fabrics. Amacron dyes, he said, are not subject to such loss. He also made the point that for Amacron dyes, washing tests are excellent as are alkaline and acid perspiration tests.

Triplett also explained that light fastness of Amacron dyes, as tested in the Fade-Ometer show that the dyes are able to withstand 60 to 80 hours. In discussing crocking, he defined this term to mean the tendency of dyes to rub off a fabric. When properly applied, he said, Amacron dyes have excellent resistance to crocking. He added that good dispersion of the dyes aid penetration of the fiber, thus insuring a good crock test for the Amacrons.

With regard to sublimation, he said that this phenomenon is important in two aspects. When cloth is pleated or steam-pressed color has a tendency to sublime onto white or to crease uneven shades in the pleats. The dyer is also concerned with sublimation, Triplett noted, when using heat curing methods of application. In this regard, he said, Amacron dyes are generally good, although a few exhibit sublimation in high concentrations.

General's New Blacks

Availability of three new black dyestuffs was made known by General Dyestuff Co., a division of General Aniline & Film Corp. The three new dyes are Rapidogen Black GG Solution, Rapidogen Black JF Solution and Rapidogen Black GRW Solution. All three are stabilized azoic compositions offered in individual shades for printing high quality blacks on cottons or rayons.

Application is by direct roller and screen printing methods, with development by acid aging only. Including a greenish, a bluish, and a jet black in self shades, and suitable for combining with other Rapidogen dyes, the new formulations are said to serve best in printing deep blacks economically.

Fastness tests show that fastness to light, washing and hot pressing is satisfactory for cotton or rayon dress goods, according to General Dyestuff. The light-fastness ratings given are for full shades only as the dyes are not intended for use in lighter shade depths. Because of their good fastness to formaldehyde, these dyestuffs are suitable for printing in patterns with pigment-containing resins that release formaldehyde in curing.

The three Rapidogen black dyes are all supplied in solution form, and are readily incorporated into printing formulations as regularly made up with neutral starch-tragacanth thickening.

Allied's Nonmigrating Vats

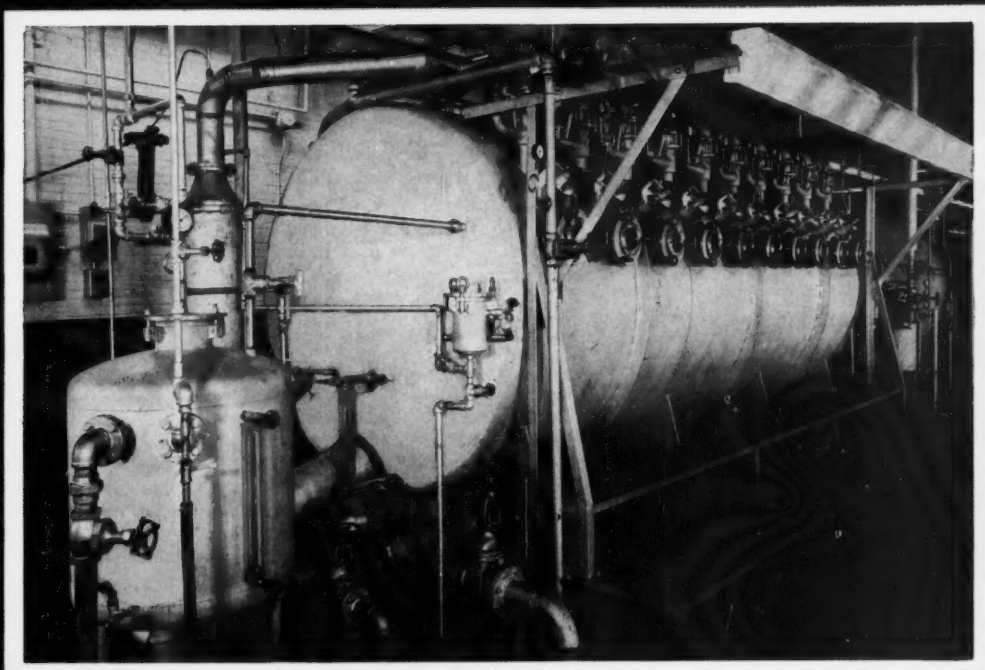
A full line of nonmigrating vat dyes which give clearer and brighter shades on cotton and rayon, where top fastness is desired, is now available from Allied Chemical's National Aniline Division.

National's nonmigrating Carbanthrene dyes are said to overcome a problem usually associated with conventional vat dye particles, which generally migrate upon drying after pigmentation on cotton and rayon cloth. This results in shading and a streaky appearance. The migration is sometimes due to uneven drying when the dye particles are drawn to moisture in the slower drying part of the fabric. After several years' research, National Aniline has eliminated these undesirable characteristics by improving its existing vat dyes to minimize migration while the cloth dries.

The Carbanthrene nonmigrating vat dyes are available in a comprehensive range of shades.

For further information about any of the dyes described in this report, readers are invited to write the editors.

**NEW
AS
TOMORROW'S
HEADLINES**



JET DYEING MACHINES

PATENTS PENDING

A PRODUCT OF BURLINGTON INDUSTRIES' RESEARCH

FOR WOVEN AND KNIT FABRICS

SEE IT AT BOOTH 347 AILE KALANIK CITY, N.J.

40th ANNIVERSARY

Gaston County Dyeing Machine Co.

WORLD'S LARGEST PRODUCERS OF PRESSURE DYEING & DRYING MACHINERY
STANLEY, N. C., U.S.A.

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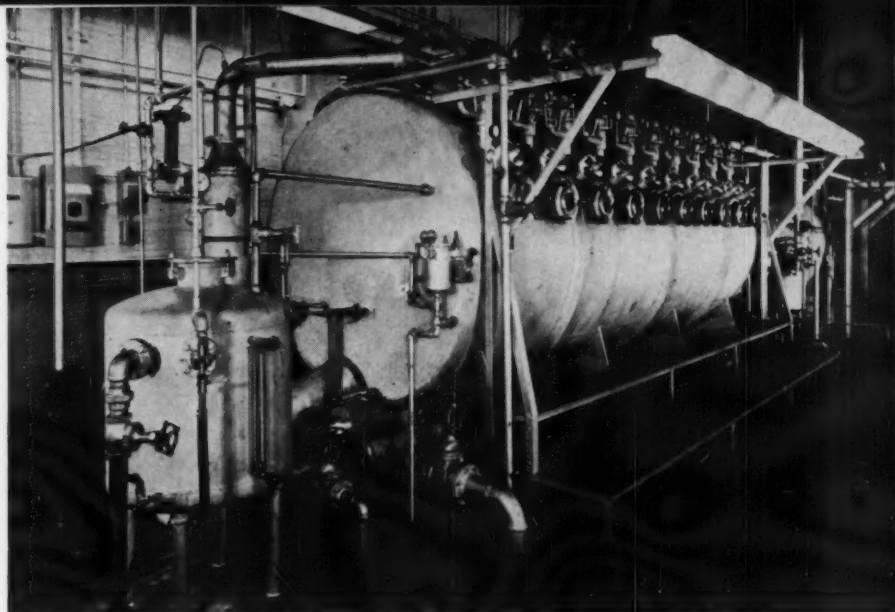
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A. R. Breen
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260 Fleet St., E., Toronto

New dyeing machine

said to give better
results at lower cost



JET ACTION DYEING MACHINE—Gaston County's new machine moves fabric through dyeing process by a jet stream of dye liquor

A NEW DYEING MACHINE said to embody a new concept in fabric dyeing will be introduced this month at the Knitting Arts Exhibition by Gaston County Dyeing Machine Co. Called the Jet Dyeing Machine, the machine is said to be the result of a three year research and development project by engineers of Gaston County and Burlington Industries. A pilot machine has been in operation for two years, and a second production model for several months, according to a Gaston County spokesman.

According to an advance report in the trade the new machine operates in this way: the fabric to be dyed is compressed lengthwise in rope form. It then passes through a pipe. A jet of dye liquor is forced into the pipe under pressure, and the force of the jet moves the cloth through the pipe which serves in effect as the dye chamber. As the rope of fabric passes through the pipe, it is surrounded by the dye liquor and an even dyeing is obtained.

Burlington Industries has a patent application pending, and the patent is scheduled for issuance in early April. Patent protection is also being obtained in foreign countries. Burlington has licensed Gaston County to build and sell machines throughout the textile industry. Purchasers will be licensed by Burlington to use the machines.

Advance information from the Gaston County firm states that the jet principle for fabric dyeing has

numerous advantages over beck dyeing now in use in the textile industry. The advantages claimed include the following:

The new machine may be operated above or below the boiling point as required; low dye liquor ratio—10:1 versus 20:1 for conventional dye becks; uniform temperature maintained in all parts of dye bath at all times by controlled heating and cooling; dye bath volume remains constant due to indirect heating and cooling by exchanger.

Other advantages cited by Gaston County are: no reels or drives to chafe and tangle strands of fabric; in the dyeing process fabric is moved entirely by jet action and dye liquor flow; friction is eliminated since the fabric is always encased in liquid; level dyeing is achieved with no shading from side to side or end to end; complete dye bath exhaustion is achieved.

Also said to be advantages of the Jet Dyeing Machine are these: the machine permits improved color fastness and brighter shades; dark shades are more easily obtained; soaping and washing are much faster and thorough; less chemical carriers are required in processing certain manmade fibers; fabric shrinkage is uniform from end to end; the finished fabric has a better hand due to rapid and constant agitation during processing.

New Deodorizing Process

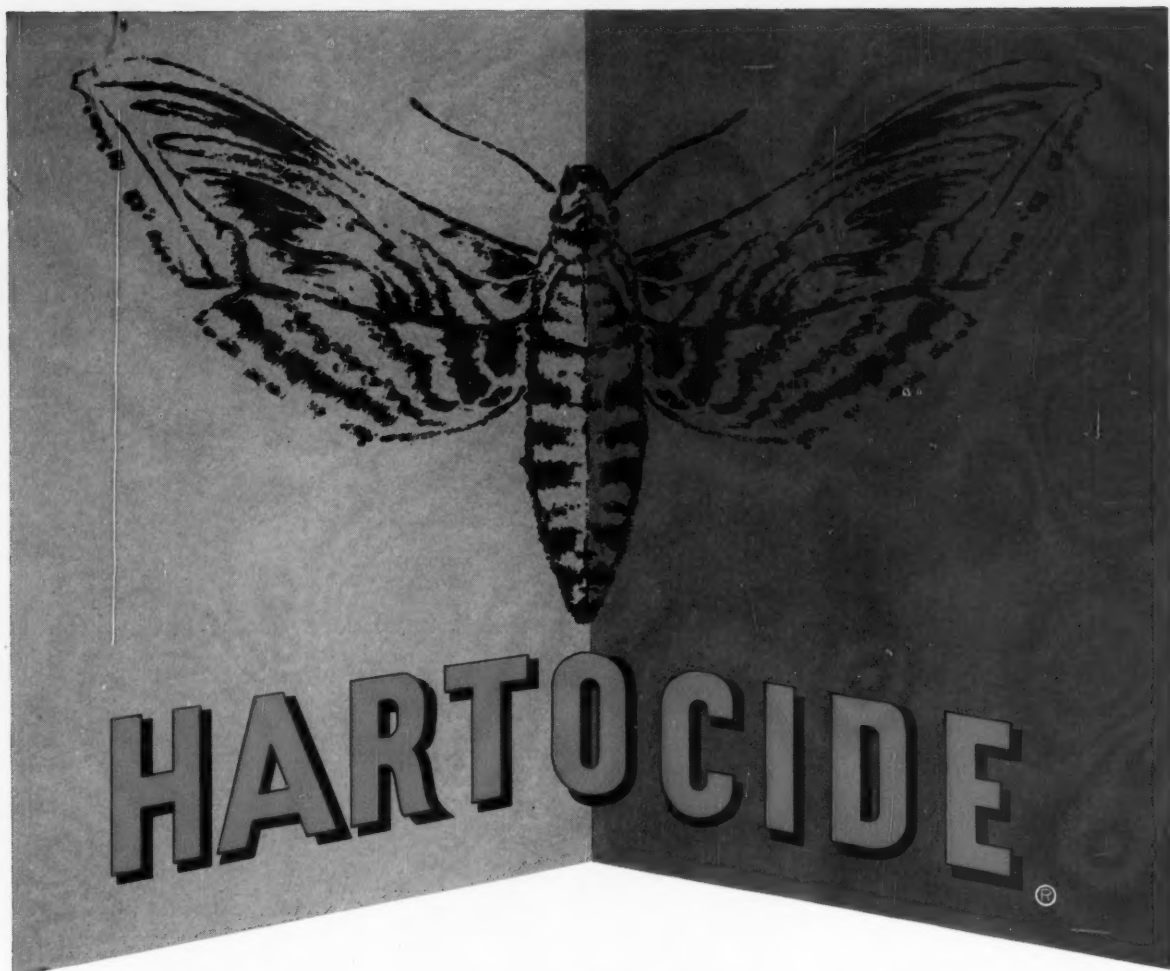
A new process for removing odor from resin-finished goods has been developed by James Ullman, president, Blau Deodorizing. The firm has been granted a patent pending on the process which is said to eliminate odor from UF and MF resin-finished goods.

Blau has used this process for quite some time for removing fishy, amine and formaldehyde odors from garments. Now the system, which uses gas induced by chemical reaction, has been extended to mill processing and the only equipment necessary is an ager or steamer. Best method for application is said to be after curing and if the mill has room for an ager to be installed at the curing oven the process can be

continuous. With this set-up, added cost per yard is described as negligible.

The equipment can be arranged to work with the speed of the curing oven and 50 yds. and better are possible. The process is said to have no effect on the physical properties of the fabric being treated. A general formula is recommended for application to a wide variety of goods including cotton, Dacron, nylon, Fiberglas and the blends. However, the formula can be easily changed to meet specific problems of odor elimination. While it is recommended to run the goods through the ager right after curing, it is reported that the goods can be successfully treated a week or two after curing. However, additional labor becomes involved when this is done.

A royalty basis is being worked out by Mr. Ullman.



for permanent mothproofing

Wool yarn, blankets, rugs, suitings treated with Hartocide are protected against the damaging effects of moths and carpet beetle larva for the *life of the garment*.

The protection, achieved *at very low cost*, is applied directly in the dye bath, and remains through laundering, dry cleaning and all normal use conditions.

Wool articles properly treated with Hartocide exceed ASTM requirements for permanent mothproofing.

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For the DYER

and FINISHER

Automated Hose Dyeing

Proctor & Schwartz has reported that its Electrocolorset process, an automatic color-controlled pressure dyeing machine and technique for processing women's hosiery, is presently producing commercially acceptable hosiery. Jack M. Christie, told a recent meeting of the Piedmont Branch, American Association of Textile Chemists and Colorists, that all major design obstacles have been overcome.

The basic approach of the process, he said, is to measure the desired characteristics of the end product, and by controlling some condition or conditions in the process, produce that result. In hosiery dyeing, he pointed out, this would be the reflectance measurement of color in the finished stocking, and the controlling of dye concentration plus a variety of other conditions.

Flame-Retardants

Six new, flame-retardant additives which could prove to be economical and efficient in a wide range of polymeric systems as well as in synthetic fibers, rayon, paper and wood products, have been developed by Monsanto Chemical Co. Trademarked Phosgard, they are a series of heretofore unknown organophosphorus compounds derived from a new general reaction discovered recently by Monsanto and disclosed at the recent national meeting of the American Chemical Society.

Standard tests, Monsanto said, have shown the compounds to be effective flame retardants in resin systems when added in concentrations of 3 to 25% by weight, depending on the polymer type. A Monsanto spokesman said it is possible the future volume price of the chlorine-containing "C" series of the products may be around 30 to 35 cents a pound, with the bromine-containing "B" series around 50 to 60 cents.

For further information write the editors.

New Eastman Dyes

Eastman Chemical Products, Inc., has introduced five new dyes for synthetic fibers—four for use on polyester fibers and one for acrylic fibers. The Eastman polyester dye-stuffs include: Brilliant Red FFB1, a blue shade of red; Dark Brown GL, particularly developed for men's wear and which produces neutral tans to full dark brown

shades: Brown 3RL, a strong orange shade of brown, and Navy Blue RL, for full bright shades of blue. Eastacryl Blue 5GL is a cationic dye for acrylic fiber, and which provides green shades of blue. For further information write the editors.

New Sandoz Products

Sandoz, Inc., is marketing three new products—two dyes and a leveling agent. Cuprofix Blue C-FBL is a new aftercropping direct dye which is recommended for all types of cotton or viscose materials where good fastness to light and washing are desired. Cuprofix Black C-FBL Pat., is a new, homogeneous aftercropping dye for producing bluish blacks on cellulosic fibers. Lyogen WD is a newly developed leveling agent for the dyeing of wool; it is recommended for use with acid dyes.

Harshaw 'Thermoprint'

Harshaw Chemical Co. has developed a new carrier, "Thermoprint", for use where the thermosol method is used for development of the print. The new product is said not to leave any adverse effect in the fabric after the developed prints are washed and finished. While it is primarily intended for the thermosol method, the new carrier gives equal results with the steaming and aging methods, and eliminates the need for several types of printing assistants.

Improved Flame Retardant

APO-THPC is a new flame-retardant chemical mixture invented and developed for use on cotton and other fabrics at the Southern Utilization Research and Development Division of the Agricultural Research Service in cooperation with the Army Quartermaster Corps. The key chemicals used in the process are tris-(1-aziridinyl) phosphine oxide, abbreviated as APO, and tetrakis (hydroxymethyl) phosphonium chloride, abbreviated as THPC.

The process can be applied to civilian, industrial and military fabrics, regardless of weight or construction. It is effective on cotton, rayon, wool, and silk, and on blends of these fibers, but not on cellulose acetate or nylon. It can be applied to unwoven cotton fibers before processing. Application of the flame-retardant is simple and can be done on standard resin finishing equipment. For further information write the editors.

New Softening Agent

"Softener 4," a new non-ionic softening agent for synthetic knitted and woven fabrics, is being offered by W. F. Fancourt Co. The agent is said to have good non-

yellowing and gas-fading properties along with an ability to impart softness and body to fabrics. Softener 4 can be used alone or in combination with other finishes, and will withstand normal drying temperatures. For further information write the editors.

New Intermediate

An improved intermediate, used for dyestuffs and as a curing agent for epoxy resins, is now being produced by Allied Chemical's National Aniline Division. The product, Methapenylene diamine, ranges from light gray to tan flakes. It has no ammoniacal odor and offers a setting point of 62.6% minimum, strength to 99.3% minimum and is insoluble in hydrochloric acid to 0.1% minimum. For further information write the editors.

New Textile Resin

Rohm & Haas Co. has developed an acrylic polymer for use in pigment printing and other textile operations. The product, formerly known as Experimental Dispersion HA-773, is offered commercially as Rhoplex B-27, and is supplied as a non-ionic milky Rhoplex emulsion of 45% active ingredient. The agent is said to feature low crocking, improved washfastness, freedom from discoloration and good resistance to cyclic aging. B-27 may be effectively utilized in both roller printing and screen printing. The product is also proposed for bonding nonwoven fabrics to obtain good fastness properties with stability to heat and ultraviolet exposure. For further information write the editors.

Onyx Adds Specialists

The Technical Department of Onyx Chemical Corp., under the direction of Dr. R. L. Wakeman, has added several specialists to its research staff. They include: Dr. Sidney Cohen, named head of textile research and development; Joseph Coates, named chief research chemist, and Dr. Walter Brandenburg, who as pilot plant supervisor will be involved with process development. Recent junior chemist additions to the technical staff include: John Schaubach, Salvatore Eretto, Jr., Richard Beane, Jr., and Walter Czerniec.

New Blanket Finish

Pepperell Manufacturing Co. has developed a new protective finish, Nap-Guard, which is said to eliminate shedding and pilling, before and after washing, in both its 100% Acrilan acrylic and rayon-blend blankets. The finish, which is completely insoluble in water and dry cleaning, changes the reaction of rayon fibers from hydroscopic to hydrophobic.

Black *

Send your
DARK
SHADES
to market protected by the
OUTSTANDING
FASTNESS of

EASTMAN POLYESTER DYES

Call in your Eastman representative to tell you all about the performance advantages and economy of these dyes

Darker shades of polyester fabrics and their blends are more in demand than ever.

In step with this trend, Eastman offers an expanding series of polyester dyes, providing the best all 'round fastness characteristics of polyester dyes currently available.

Specifically developed for use with polyester fibers, these dyes exhibit outstanding fastness to washing, light, sublimation, crocking, perspiration, dry cleaning and wet pressing.

Equally important are their excellent processing characteristics...good build-up, good exhaustion and outstanding leveling properties. Thus, blacks, charcoals, navies and browns are economically obtained.

Dyeing with Eastman Polyester Dyes is easily accomplished with carriers or under pressure at elevated temperatures. Fibers can be readily dyed in tow, tops, stock, or fabric forms. Fabrics of polyester filament can be conveniently dyed in jigs. Fabrics woven of spun polyester yarns alone or blended with cotton, viscose or wool can be easily dyed in dye-becks.

Get the full story of this outstanding line of dyes for polyester fabrics from your Eastman representative.

Eastman Polyester Dyes

Eastman Polyester Dyes are sold in the United States by **EASTMAN CHEMICAL PRODUCTS, INC.**, subsidiary of EASTMAN KODAK COMPANY, in Kingsport, Tennessee; Lodi, New Jersey; and Greensboro, North Carolina. On the West Coast through **WILSON & GEO. MEYER & COMPANY**, San Francisco, Los Angeles, Portland, Seattle, Salt Lake City. In Canada through **CLOUGH DYESTUFF CO., LTD.**, St. Laurent, P. Q.

Try this formula on your next lot of black.
2.5% Eastman Polyester Blue 3RL
3.3% Eastman Polyester Blue BLF
0.9% Eastman Polyester Orange 2RL
5 g./l. o-phenyl phenol type carrier
Material: Polyester
Bath Ratio: 30:1
Dyed 1 hour at boil

Polyester Yellow 5GLS
Polyester Yellow RL
Polyester Yellow W
Polyester Yellow 5R
Polyester Red B
Polyester Red 2G
Polyester Dark Red FL
Polyester Pink RL
Polyester Pink LB
Polyester Brilliant Orange 2RL
Polyester Diazo Black B

Polyester Orange 3RLN
Polyester Blue GLF
Polyester Blue GR
Polyester Blue 3RL
Polyester Blue BLF
Polyester Blue GB
Polyester Navy G
Polyester Violet R
Polyester Brown 3RL
Polyester Black RB

Munsingwear

(Continued from Page 32)

inventive gift which had expressed itself in the creation of numerous devices and machines. Over the years, the company struggled through many crises and changes, but its main direction, amid all these vicissitudes, was always toward growth and diversification. In 1920, the company adopted its brand name "Munsingwear" as its corporate name.

From its background as a manufacturer of branded knitted underwear, the company as it exists today, with all its diversification and wide range of apparel products, emerged in the last decade. The current phase of the Munsingwear story might be said to begin in 1952 when McConnell, who had joined the company in 1937, coming from Marshall Field, was elected president. During World War II, McConnell had discharged with great distinction the heavy assignment of directing all Munsingwear's enormous war production.

Popular Golf Shirt

Under McConnell's direction, growth trends already under way in Munsingwear were continued and new paths of expansion opened. One of the most important of these new directions was the entry into the field of men's sportswear. This move was based largely on the introduction of a new golf shirt whose design was based on information carefully gathered by consulting 240 golf professionals. Introduced in 1955, the shirt has become the largest selling sport shirt in the country.

In 1957, Munsingwear, in the largest single purchase in its history, acquired for \$3 million the Hollywood-Maxwell Co., of Hollywood, Calif., a successful maker of brassieres selling to independent retail stores under the brand name Hollywood V-ette. The new acquisition was combined with Munsingwear's older Vassar division to form the Hollywood Vassarette Division.

In the same year, Munsingwear carried out the reorganization already mentioned which laid the basis for the company as it operates today. Four autonomous divisions were set up: men's and boy's; women's and girl's; women's hosiery, and the Hollywood Vassarette division. Each division was given its own plants, executive staff, working force, merchandising, and in varying degrees, its own sales force. To supply these four manufacturing and marketing divisions with fabric needed for their cutting and sewing operations, a fifth division, devoted to manufacturing, was created. The David Clark Co., as noted above, continued as the sole operating subsidiary of the company.

In keeping with the creation of these autonomous divisions, the sales force, under the direction of L. N. Pederson, vice president and general sales manager, was regrouped to provide more specialty salesmen. The extent of this change in selling methods is indicated by these figures: in 1956, Munsingwear had a total sales staff of 70 of which 16 were specialty men. In 1960 there were 83 salesmen of which 38 were specialty men and 45 selling the general line. President McConnell points out that this shift to specialized selling has shown its success by these results: with only a 20% increase in the sales force, first-line product distribution increased over 50% between 1956 and 1960.

The emphasis on styling and vigorous merchandising which has emerged as a dominant trend from the



Laurens D. Dawes

He is both Munsingwear's executive vice president and general manager of its important Hollywood Vassarette Division

reorganization is also shown in the success of Munsingwear's new policy of coordinated selling of lingerie, girdles and brassieres. Even nylon hosiery has been color-coordinated to complement lingerie colors. For this policy of coordinated selling of women's intimate wear, Munsingwear claims an industry "first". To carry out the plan, Munsingwear had to work out close and intricate cooperation between its design studios for lingerie, girdles and brassieres and its research facilities to find ways to color-match the numerous and varied fabrics, yarns and laces that go into its varied range of coordinated garments. Last but not least, the company had to make sure that its sales force was trained to understand and explain to customers the sales potential inherent in the intricately coordinated lines of foundation garments, lingerie and hosiery.

Primarily a manufacturer of knitted garments, Munsingwear has traditionally maintained a keen and continuing effort to improve its manufacturing techniques. Practical research in knitting and its allied cutting and sewing operations is regarded as vitally important by Munsingwear management. In the company's main plant in Minneapolis, a large area on the fifth floor is given over to study of knitting methods. In operation here are examples of every kind of circular knitting machine Munsingwear uses in production as well as experimental machines under test and development. Skilled knitting technologists use these machines to work out new patterns and textures along with improvements in existing fabrics.

Munsingwear also works closely with yarn producers and other suppliers to test the potential of new manmade fibers and yarns in knitting. Dyeing and finishing research is also carried on as well as

(Continued on Page 59)

MACHINERY and EQUIPMENT SECTION



*First
Showing*

at the
**Knitting Arts
Exhibition**



This new Cocker Tricot Warper was designed to meet the needs of the average Tricot knitting mill. It is also a valuable piece of equipment for large yarn producers.

The Model SB contains all of the features necessary to produce the very finest Tricot warps. Be sure to see it.

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FIRST PERFORMANCE—Mill executives and newsmen study operation of Roberts-Tematex Tow Transformer at Federal Mills, Sanford, N. C.

Roberts Co. demonstrates its NEW TOW TRANSFORMER

Staff Prepared

Versatile high production unit for tow to tops processing

IN A RECENT DEMONSTRATION for millmen and the textile press in Sanford, N. C., Roberts Co. introduced its new Roberts-Tematex Tow Transformer. According to Robert Pomeranz, president of the textile machinery manufacturing firm, the machine achieves the transformation in one operation of synthetic tow into a sliver with the specific and predetermined character desired by the fabric designer.

Germinal N. Giraudi, Robert's vice president, said that the Tematex machine offered an unusual combination of versatility and high productivity. He asserted that it was the first machine capable of commercial production of all types of manmade fiber tow into tops for the manufacture of normal or high bulk yarns. He noted that the Tow Transformer combines several operations heretofore requiring two or more pieces of equipment. The machine, he said, produces normal tops from normal tows, heat-stretched and high bulk tops from normal tows without the need for second operation heat relaxing, and also high bulk tops from two-component tows.

In a luncheon talk following the demonstration of the Tow Transformer, Giraudi outlined the technical requirements that were engineered into the machine to capitalize on the speed and economics inherent in working with continuous synthetic filament in the manufacture of yarns.

He predicted that "the future of synthetic fibers in

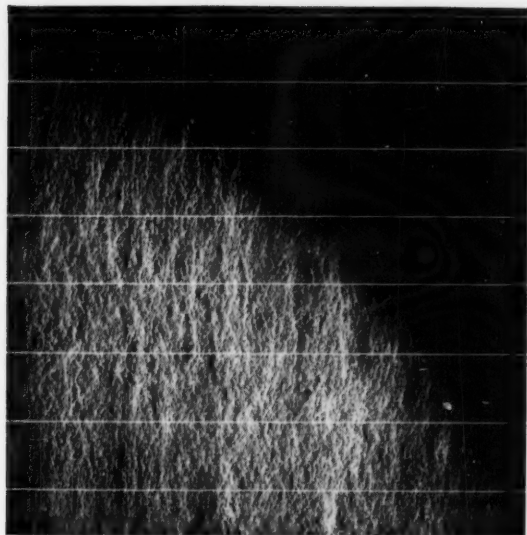
many fields appears to lie with the processing of tow into sliver for both the cotton and worsted systems. New machinery and techniques provide the mill with a tow to top system that is versatile, flexible, low cost and on which many new effects can be achieved. Giraudi, as the company's director of yarn and fabric development, headed the program in developing the Roberts-Tematex Tow Transformer.

The new machine can either cut the continuous synthetic filament, or heat stretch it before cutting the tow into fibers of predetermined lengths of from 2½" to 8". Normal tow can be combined and blended with heat-stretched filament before cutting, and tops of natural fibers can be introduced after the cutting zone to obtain an initial sandwich blending. Either a square cut or a variable cut diagram can be obtained.

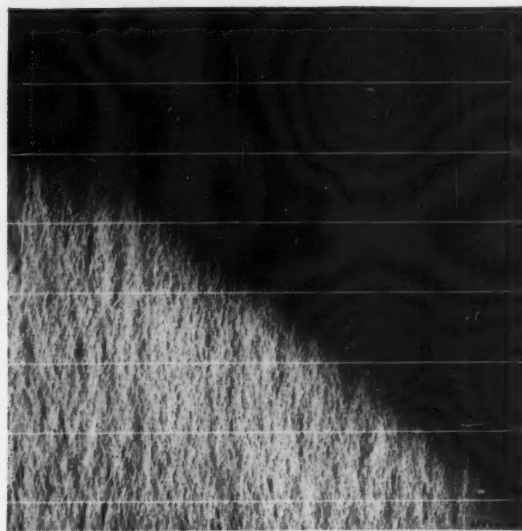
The Tow Transformer, according to Pomeranz, also permits a productivity increase up to 15% more than machines presently on the market. Two million deniers can be in-fed, and production is up to 140 pounds per hour. It delivers to a large can of 24" diameter x 36" high, containing 40 to 70 pounds, depending on fiber.

The complete machine, basically, involves an in-feed with hydraulic weighting of the gripping rolls, providing mechanical stretching of the tow; an optional heated pre-stretch zone with automatic con-

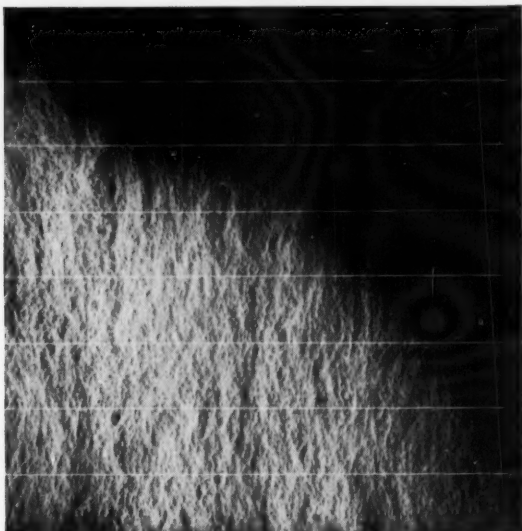
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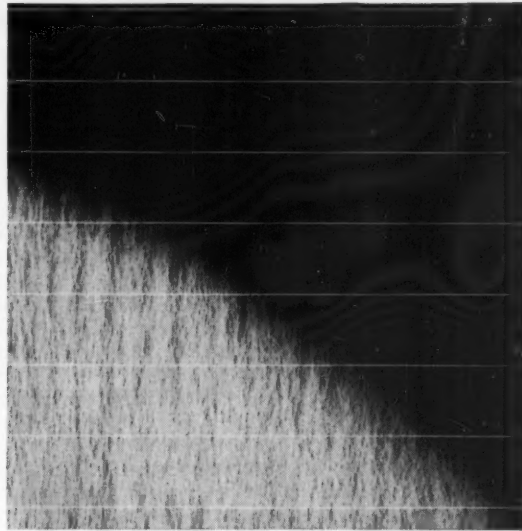
1. 6 DEN/FIL ORLON* SLIVER DIRECT FROM TURBO STAPLER...heat-stretched to assure maximum shrinkage of fibers.



2. RELAXED SLIVER FROM TURBO FIBER SETTER...to assure softer hand and finest surface. Nep-free parallelism eliminates carding and combing.



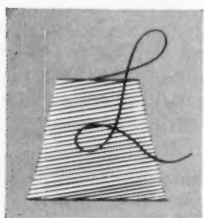
3. BLENDED ORLON* SLIVER...relaxed and high shrinkage components prior to rebreaking to eliminate over-length fibers.



4. 6 DEN/FIL ORLON* SLIVER...after reprocessing on Hood Re-Breaker to assure better control for spinning, perfect pattern for pin drafting.

FROM A CONTROLLED STAPLE DIAGRAM... AMERICA'S NO. 1 SWEATER YARNS!

TURBO HIGH BULK ACRYLIC YARNS



LOHRKE / TURBO

Only the Turbo Stapler method, utilizing the unique Perlok Process, achieves the correct staple diagram for finest quality high bulk yarn requirements.

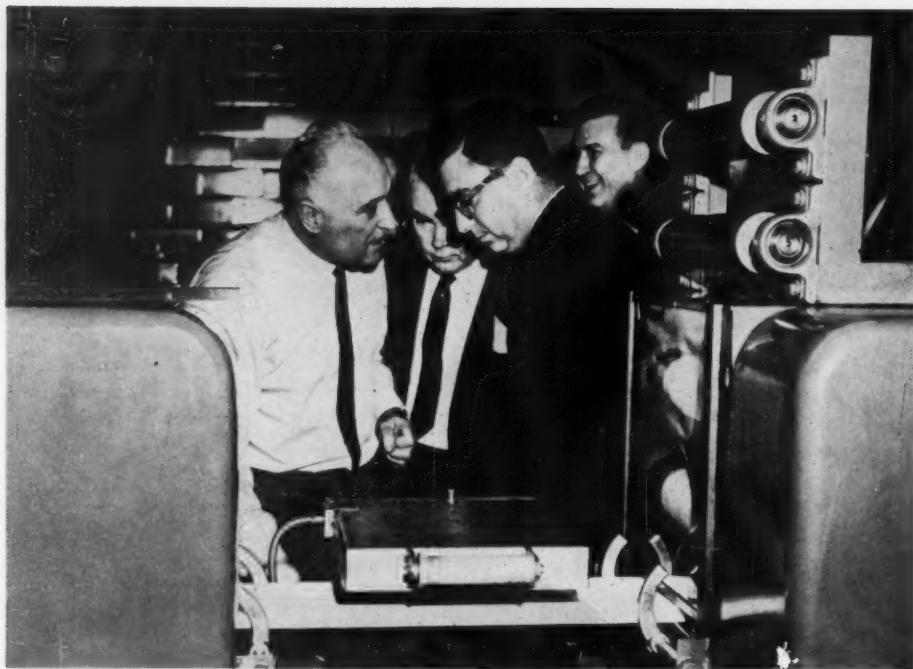
Synthetic fibers are first heat-stretched, then broken into variable staple lengths by the Perlok "Breaker Bars". The staple diagram thus produced permits the spinning of yarns of unusual uniformity and cover. Converted filaments are readily given desired crimp for improved processing. For high bulk yarns, a portion of the fibers are "relaxed" by the Turbo Fiber Setter steam process... then blended with "unrelaxed" fibers to produce the superior bulk and hand found exclusively in Turbo-Orlon* and other high bulk acrylic yarns. Yarn shrinkage is scientifically controlled during final finishing of the knitted garment. If it's made from Turbo High Bulk yarn, it's made from America's No. 1 sweater yarn!

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ANSWERMAN—
G. N. Giraudi,
Roberts' vice
president (left)
explains
operation of
heated pre-
stretch zone of
Roberts-Tematex
Tow Transformer
to John T.
McGuire,
manager, and
Alan Axelrod,
vice president,
Airedale Worsted
Mills, Stony Point,
N. C.

Roberts Tow Transformer

(Continued from Page 52)

trols; the cutting unit which performs a fracturing operation by means of a helicoidal cutter; and a single head single delivery "ParaDrafter" gill box to perform one pinning operation to distribute evenly and parallelize the cut fibers, further the blend and deliver a homogeneous sliver. This last operation may eliminate some subsequent gilling operations. The ParaDrafter head feeds through a crimping box to give further cohesion and compactness to the sliver, which is then delivered through a ball bearing coiler into the large can.

"The key to satisfactory application of synthetic fibers, of new forms of these fibers, of combinations of fibers, and of desired colors lies in proper and intimate blending," Giraudi emphasized. "Full consideration to blending must be given at every step in the transformation of tow to sliver and then into yarn in order to achieve the desired yarn character on a consistent basis."

The Tow Transformer itself is a blending machine. First, tow from four to eight boxes or balls of continuous synthetic filament are combined in a sandwich in order to obtain the infeed of up to 2 million deniers, so that possible differences from one box to another are minimized. Succeeding zones provide the opportunity to sandwich blend normal with stretched tow, and then also natural fiber or previously processed tops may also be combined with the cut web. Finally, the gilling zone obtains further blending distribution.

"A tow system automatically stimulates consideration of longer fibers and the resultant benefits," Giraudi said. "For the worsted system spinner the tow system is a boon and many new fabrics have been developed in the past two or three years with new and desirable effects not otherwise available. Better finishing, better crispness and a fuller band result from the coarser deniers permitted by increases in fiber length."

A joint development of Roberts and its Italian affiliate and licensee, the Tematex Co., the Tow Transformers are being made at Tematex's plant near Milan. For the United States' market, components of the machines are being made and fitted at Roberts' Sanford plants.

Additional data about the Tow Transformer made public at the demonstration included the following details. The machine processes tow into tops, producing

1. Normal tops from normal tow such as Du Pont Dacron polyester fiber, nylon, rayon and other synthetics.
2. High bulk tops from normal tow such as Orlon 42, and Acrilan.

Cutting is done by fracture through a helicoidal cutter, resulting in nominal square cut lengths of $2\frac{1}{2}$ ", $3\frac{1}{4}$ ", 4", $5\frac{1}{4}$ " and 8". There is also a variable cut attachment. Infeed is up to 2 million deniers. Production rate is up to 140 pounds an hour. Delivery can size is 24" diameter, 36" high holding 40 to 70 pounds, depending upon the kind of fiber.

The machine is equipped with an optional heated pre-stretch zone with individually controlled 6 kw. heater plates, and automatic raising of plates when the machine stops; there is a blower for air cooling. Or a station can be provided for later addition of this zone.

On the machine, delivery is made from the cutter directly into a ParaDrafter zone with 8" wide pinning field, 12 pins per inch, faller pitch .354" with 1,200 drops a minute. There is also hydraulic weighting of the top roll, hydraulic lifting of head, draft ratio 5 to 15, and a static eliminator.

Other features of the machine are convenient stop motions fitted at infeed, cutting zone, ParaDrafter and delivery. Motors, control panels, tool steel cutters, creels and accessories on the machine are all made in the United States. The machines will be serviced from Roberts Co. from its headquarters in Sanford and a complete line of repair parts will be available from Sanford.

Announcement concerning patent litigation over Manufacture of crimped nylon yarn in France

FOREWORD

ON APRIL 27th, 1960, the Court of Appeal of Nimes rendered a judgment of a great importance for the French throwing industry. This case, six years pending, concerned the manufacturing of crimped nylon yarn. A Swiss company, Heberlein & Co., on the basis of a patent going back to 1933, claimed the monopoly of this process. A Lyon's industrialist, M. Billion, had also applied for a patent concerning the same process in 1948. Since that date, these two manufacturers together operated under these patents, and had granted licenses to 16 important French throwsters and spinners who in turn had some 350 commission twisters working for them.

Two Companies, Manivet S. A. in Lyon and the Successors of P. Courtier, in Marcols-Les-Eaux, contesting the validity of these patents, manufactured crimped nylon without license. An action was brought against them by Heberlein and Billion, joined by one of their licensees, the Company, "Tissages de Soieries Reunis".

On September 27th, 1956, the Court of Privas judged that Billion's action was not receivable, and that Heberlein's patent was invalid through non utilization. On June 26th, 1957, the Court of Appeal of Nimes ratified the judgment of the Lower Court as regarding Heberlein, and ordered that a survey be made by an expert before it could rule on the Billion patent. In 1959, the survey report upheld the novelty of the Billion patent, hence its having been infringed by Manivet and Courtier. On April 25th, 1960, the Court of Appeal of Nimes, after a two day discussion, ruled that the survey, although regular in its form, was wrong in its conclusions, and rendered a lengthy and minutely explained judgment, a copy of which is given below.

THE COURT'S DECISION

Mr. Jacques Tardieu's Office; Doctor of Laws; Solicitor to the Court of Appeal in Nimes

Under date of 25 April 1960, the Court of Appeal in Nimes has issued between:

1. Mr. Jacques Billion, resident in Lyons, 22 bis rue Dumont d'Urville,
 2. The Company Heberlein & Co, Swiss company, having its Head Office in Wattwill, Switzerland,
 3. The Company Tissages de Soieries Reunis (T. S. R.), Limited, whose Head Office in Paris, 24, rue de la Banque,
- appealing a judgment pronounced by the Civil Court in Privas, under date of 26 September 1956, on the one hand

AND:

1. The Company "Manivet S. A.", whose Head Office is in Lyons, 15, Rue du Gare,
2. Mr. Jean-Pierre Manivet, resident in Lyons, 14 Quai Tilsitt,
3. Mr. Bernard Manivet, resident in Lyons, 14 Quai Tilsitt,
4. The Company "Les Successeurs de Paulin Courtier", S. A. R. L., whose Head Office is in Marcols-Les-Eaux, Ardeche,

5. Mr. Maurice Courtier, resident in Marcols-Les-Eaux, Ardeche,

6. The heirs of Paulin Courtier, residing during his lifetime in Marcols-Les-Eaux, Ardeche,

Defendants, on the other hand,

A decision whose enacting terms are hereunder literally transcribed:

THE COURT,

Seeing the inferences, having heard the Judge at the Court, Mr. Pansier, in the reading out of his written statement, the lawyers of both sides and the Public Prosecutor,

Settling the interlocutory of the 26 June 1957:

Grants the validity of the Maillard expert investigation;

Paying due respect to the report of the said expert; states that the use for superpolyamide yarns of the processes described in the patents British Celanese No. 424,880 and 453,320 is a new way of making use of these processes;

Ascertain that the patent Du Pont de Nemours No. 833,755 of the 14 February 1938 has described the application to nylon of the overtwisting/fixing/untwisting process and the product thus obtained;

States that the patent Billion No. 946,205 is invalid for lack of novelty inasmuch the said patent claims a process of treating the superpolyamide yarns while restricting itself to the sole overtwisting/fixing/untwisting stages, and to the products thus obtained;

Ascertain that neither Manivet nor Courtier have made use of a handling process comprising a free shrinkage phase on deformable stands, and that consequently they have not infringed the patent Billion;

Consequently, non-suits Billion and the Company Tissages De Soieries Reunis for all their claims, ends and inferences;

And ruling on the counter-claims, sentences Billion to pay as damages:

1. to the Company Manivet, to Jean-Pierre Manivet and to Bernard Manivet as a body the amount of fifty thousand new French Francs (50,000 N.F.),

2. to the Company Courtier, to Maurice Courtier and to the heirs Courtier as a body the amount of ten thousand new French Francs (10,000 N.F.),

Sentences the Company Heberlein to pay as damages:

1. to the Company Manivet, to Jean-Pierre Manivet and to Bernard Manivet as a body the amount of ten thousand new French Francs (10,000 N.F.),

2. to the Company Courtier, to Maurice Courtier and to the heirs Courtier as a body the amount of two thousand new French Francs (2,000 N.F.);

Orders the publication of the enacting terms of the present judgment, at the expense of Billion and of the Company Heberlein, in five French or foreign periodicals, to be chosen by Manivet and Courtier;

Sentences the Company Tissage de Soieries Reunis to pay the costs of its intervention as well for the first instance as for the Appeal; sentences the Company Heberlein and Billion to pay all other costs for the first instance and for the Appeal, these being set apart for Mr. Tardieu, solicitor, upon his legal assertion to the rights to the same.

For insertion, signed J. Tardieu.

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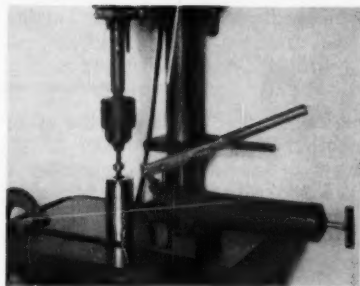
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NEW Equipment Machinery



Ball Bearing Service Kit

Dixon Corp. has available a special service kit for regreasing and/or replacing bearings in Dixon ball bearing top rolls. The kit includes a new regreasing pump which can grease the bearings without removal from the roll arbor and without removing any part of the bearing. Dixon reports that the method (patent pending) permits regreasing of up to 800 rolls in an 8-hour period.

The kit also includes a hand arbor press and special fixtures for removal and replacement of bearings as necessary, along with a "bearing bank" of 300 new top roll bearings. The service kit is available to all mills using the center bearing type of top roll.

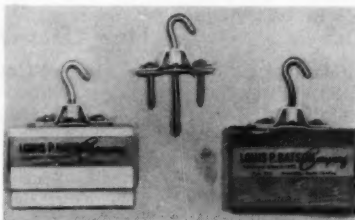


Anti-Friction Cradle

Progressive Engineering, Inc., has been assigned U.S. Patent 2,944,300, which covers a novel cradle serving to support and to position the middle top roll and the aprons associated with middle top and bottom rolls of spinning and roving frames. The anti-friction cradle, being marketed as "Ny-Pre-Lon," is formed of nylon material which requires no lubrication. Progressive reports it does not wear itself or cause wear on the steel shaft on which it is mounted. For further information write the editors.

Automatic Chemical Feeding

Milton Roy Co. has released a data sheet describing how a South Carolina mill effected substantial savings with an automatic chemical feed system to desize gray goods. To desize gray goods following singeing, the mill formerly prepared enzymes and wetting agents in batch tanks and fed them by gravity to the quench box through manually regulated valves. The batch tanks were replaced by automatic controlled volume pumps which now meter the concentrated solutions directly from the storage tanks to the line without prior dilution. The system, in data sheet No. J-59-1, is credited with substantial savings in chemicals, capital investment and direct labor costs, while providing more uniform processing of gray goods.

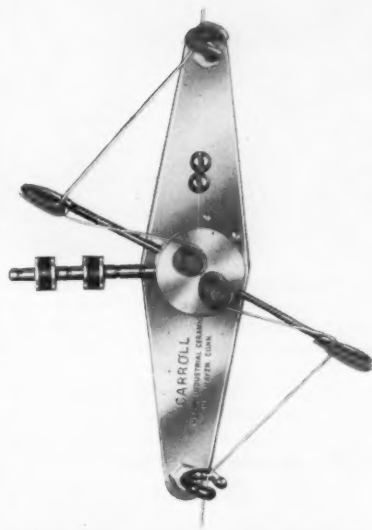


Adjustable Hook

A new harness frame adjustable hook for use with shorter connectors and designed to prevent stripping out of hooks in harness frames, is now being marketed by Louis P. Batson Co. A feature is its spring clip attachment, which maintains constant eye rigidity. The hooks have a 1½-inch tolerance adjustment and are adaptable to wooden and aluminum frames and also for ½-inch heavy duty wood frames. The company also is offering hardened drill jigs for correct installation of the new adjustable hooks. For further information write the editors.

Improved Turbo Shearer

Turbo Machine Co. is now demonstrating its new cross shearer for the carpet industry. Since the machine was introduced at the American Textile Machinery Exhibition in May, 1960, a number of changes have been made to increase its efficiency in the shearing of looped and cut pile carpets, backed or unbacked. It shears across the carpet width instead of length-wise, and will handle any width up to 16 feet, 6 inches. Two shearing heads operate in each direction across the carpet. For further information write the editors.



THE CARROLL REDRAW TENSION

This tension device was an original development by Heany to redraw nylon directly from the pirn at normal speeds and up to 450 or 550 yards per minute. It will hold tensions very closely in a range of ½ gram up to about 20 grams for special purposes.

ADVANTAGES

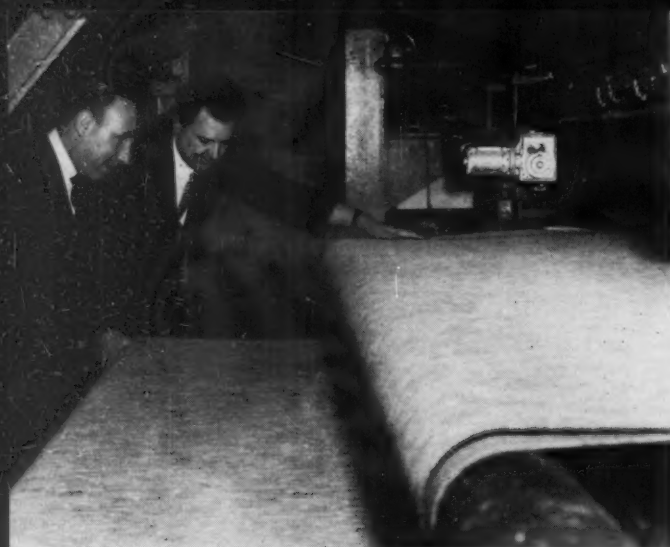
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TUFTING IN ENGLAND—At Ribbles Carpets' new plant in Blackburn, G. E. Rudland-Marshall, managing director (left) and S. Shorrock of British Tufting Machinery Ltd., inspect carpet coming from new latexer combined with tenter-dryer

High Speed Tufting in Britain

Ribbles Carpets Ltd., Longshaw Mill, Blackburn, England, is the latest tufted carpet factory to go into volume production in Britain. The new mill, equipped with two tufting machines supplied by British Tufting Machinery Ltd., Blackburn, is making $\frac{1}{8}$ gauge cut pile tufted carpeting, with the emphasis on production of an all-viscose cut pile carpet.

One machine turns out 12 feet goods and the other 15 feet fabrics. Together they can produce 35,000 square yards of carpet a week, said to represent a turnover of more than \$3 million dollars annually. The plant, running on two eight hour shifts, employs about 100 workers which is expected to rise to 250 in 12 months.

The plant is also equipped with a new combined latexer and tenter dryer made by British Tufting Machinery Ltd. Tufted fabric moves directly from the tufting machine to the feed end of the latexer which is a three-pass machine. Upon emerging from the latexer-dryer, the fabric is fed between two slitting heads and trimmed to width.

U.K. Acrilan Output

Chemstrand Ltd., England, has announced plans to expand its production facilities for Acrilan, its acrylic fiber. Plant capacity is being increased immediately by 50% to 15 million pounds a year, to be effective by mid-Autumn. Engineering design work also has started to increase capacity further, to 25 million pounds a year, by the end of 1962. An additional 98 acres of land adjoining the present factory site at Coleraine, Northern Ireland, are being purchased. The firm is a subsidiary of The Chemstrand Corp., U.S.A., which is wholly-owned by Monsanto Chemical Co., U.S.A.

Hosiery Shipments Up

Shipments of women's full-length nylon hosiery in 1960 showed a gain of less than one million dozen pairs over 1959, the National Association of Hosiery Manufacturers reported. While the gain was not spectacular, it did top the previous record which had been set in 1959.

Because of inventory influence and other factors, the industry feels that three-year period averages have more meaning. Total sales for the three years, 1958 through 1960, amounted to 188,033,700 dozen pairs, an increase of 9,800,000 dozen over the previous three-year period.

Handbook of Quality Control

A new book, "Handbook for Textile Testing and Quality Control", by E. B. Grover and D. S. Hamby, is designed for use by executives, technical personnel and students. It is intended as a reference book with special emphasis on modern quality control concepts from raw materials to the finished product. The book contains 33 chapters, each of which is devoted to a major topic relating to textile testing and quality control. Grover and Hamby, the authors, are respectively professor of yarn manufacturing and professor of textiles at the School of Textiles, North Carolina State College, Raleigh, N. C. Copies of the book, hard covers, 614 pages with illustrations, may be ordered from Modern Textiles Magazine, 303 Fifth Ave., New York 16, N. Y. at \$17.50 per copy.

New Celanese Process

Celanese Corp. of America has been licensed to use a new European process to make chemicals from petroleum resources. It has been granted a license to use the process by Aldehyd GMBH, a company jointly owned by the German Chemical firms of Farbwerke Hoechst and Wacker Chemie. Celanese said the process provides a new route for the economical manufacture of acetyls, a family of widely used chemicals formed by certain combinations of oxygen and petroleum gases. Celanese now makes 30 chemical derivatives of the acetyl family, with annual production exceeding 500 million pounds. The process will be used at a multi-million-dollar plant to be built on a 1,000-acre site near Bay City, Texas.

New Saco-Lowell Officers

At the annual meeting of Saco-Lowell Shops on Feb. 8 in Portland, Maine, six executives of Maremount Automotive Products, Inc. were elected members of Saco-Lowell's Board of Directors. They are Howard E. Wolfson, Arnold H. Maremount, Jerome M. Comar, Russell A. Graham, John P. Buck and Charles A. Klaus. David F. Edwards, W. Frank Lowell and Charles E. Daniel continue as board members.

At a directors' meeting of Saco-Lowell in Chicago on Feb. 9, the following were elected officers of the company: Chairman of the Executive Committee, Arnold H. Maremount; Chairman of the Board of Directors, Howard E. Wolfson; Vice-Chairman of the Board of Directors, Jerome M. Comar; President, W. Frank Lowell; Executive Vice-President for Engineering, Russell A. Graham; Executive Vice-President for Manufacturing, John P. Buck; Executive Vice-President in charge of Finance and Treasurer, Henry Ishizuka; Vice-President, J. Theodore Wolfson; Vice-President for Non-Textile Sales, James P. W. Davidson; Vice-President for Research and Development, Robert M. Jones; Vice-President for Manufacturing, Textile Division, Royden Walters; Secretary, Chester C. Levine; Assistant Secretary, Bernard Nath; Controller, Milton Shapiro; Clerk, Donald W. Philbrick; and Honorary Chairman of the Board of Directors, David F. Edwards.



The Challenge of the Sixties

By Irving Rooman

PRESIDENT, TEXTILE DISTRIBUTORS INSTITUTE

ON THE ASSUMPTION that some sensible solution will be found to the oppressive and depressive effects of the cheap foreign imports on textiles and textile products, the distributor of finished goods is prepared to meet the challenge of the 60's.

It must be remembered by all that the distributor of finished goods is a buyer of gray goods and that he always does best during times of market stability; never during market recessions or declining prices, whether in gray goods or in finished goods.

Recent actions by the new Administration indicate a solution to the import problem may be in the offing. Assuming this to be so, perhaps a word of advice at this point to the textile mill products industry would not be inappropriate and would be accepted in the spirit in which it is offered:

1. Better techniques for the management of production should be developed and utilized. Frequent excesses of production of one quality or another do not help the mills and certainly are harmful to distributors of finished goods and their customers. This means that the gray goods mill must know more than just what his order books shows. He must also be aware of the condition of the market and the degree of rapidity with which finished goods are moving from his customer into actual and final market channels.
2. Better attention to quality control and somewhat more restraint in the introduction of

new fabrics as commercial items prior to working out quality problems would help the market and particularly the finished goods distributor who must rely so much upon the gray goods mill for information as to the commercial properties of a new item.

A word of advice to the stores may also be in order. The Textile Distributors Institute cooperated with the National Retail Merchants Association in the development and promulgation of the L22 Standards. Distributors of finished goods are now frequently asked whether they are going to comply with these standards. The question is being asked of the wrong party. The nut of the problem is, do the stores intend to come into the market and insist that garments which they buy be made of high quality goods? In so doing, stores must understand that such insistence means they must be willing to pay for the quality which they desire. Prices can be lowered only through devices which tend to deteriorate quality. It just isn't possible to get the best and pay for the least.

The textile distributor expects, (1) increased per capita consumption of textiles during the 60's, (2) a burgeoning population made up increasingly of those in the greatest textile consuming age group, and (3) an increase in the textile share of the consumer dollar. Members of TDI are ready, able, and willing to participate fully and soundly in the opportunities of the 60's.

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Munsingwear

(Continued from Page 50)

studies in the launderability of Munsingwear fabrics. This work is done under the supervision of Carroll Anderson, general manager of the fabrics division.

This year, Munsingwear celebrates its 75th anniversary as one of the best-equipped, most dynamic and formidable companies producing knitted and woven garments for underwear and associated apparel fields. The face that Munsingwear turns toward the future after 75 years of growth and diversification to keep up with the changing needs of consumers was recently summed up by president McConnell. He stressed that quality of product will remain in the future, as in the past, the basic element in his company's policies. Munsingwear's policy, he said, is to distribute quality merchandise in medium-priced brackets "which can be purchased and enjoyed by the great majority of the consuming public."

McConnell also stressed that Munsingwear will continue to sell directly to retail stores rather than through secondary channels of distribution. This policy, he said, permits the company to maintain stronger control over quality, over claims made for Munsingwear products, and over the use of its famous brand name, "Munsingwear," as well as over its newer brand names. McConnell also said that the company will continue its one-price practice. "Retail prices are recommended for all of the company's products, and, in many cases, are prominently stamped on the package or labels attached to Munsingwear garments. This is to protect the purchaser, and also Munsingwear's reputation for quality."

In summing up Munsingwear's optimistic attitude toward the future, McConnell said that "there is every reason to expect the company to continue strong in the manufacturing and merchandising of apparel in underwear, sleepwear, lingerie, hosiery, sportswear, girdles, brassieres and allied products."

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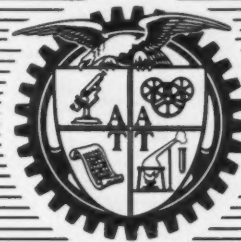
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A A T T

TEX

a universal yarn numbering system

By Arthur G. Scroggie

THE MEASUREMENT of yarn number or yarn size is a basic part of the textile fiber industry and as such one might think it would be well standardized. Actually, yarn numbering is in a very confused condition. Yarns made from each of the natural fibers are numbered in one or more different systems, a condition which hampers convenient interchange of both materials and information. The more important systems are shown in Table I. The situation is made worse by the fact that several systems are often used for yarns made from a single fiber. Various systems used for woolen yarns, for example, are shown in Table II.

The multiplicity of systems leads to confusion in thinking, mistakes in calculated conversions, and conversions which consume valuable time. In general, the existence of so many systems handicaps trade in yarns and in fabrics made from specified yarns. The desirability for simplification and standardization of yarn numbering practices has increased in recent years with the penetration of manmade fibers into mills that were traditionally devoted to a single natural fiber and to the formation of large manufacturing concerns that deal with several varieties of fibers, both natural and man-made.

Attempts to improve this situation have been made at intervals since 1870. Currently the subject has been under study in the American Society for Testing Materials since 1942 and in the International Organization for Standardization (ISO) since 1948. As the result of this work, the technical experts of 55 member nations of the textile committee of the ISO have recommended the tex system for universal use with yarns made from all fibers. The U.S.A., through the ASTM and the American Standards Association, is a member of the ISO, and the textile trade in America should consider these recommendations carefully.

The tex system is a method of numbering yarns based on tex units as distinct from more familiar traditional units, i.e., cotton counts, woolen runs, worsted hanks, denier units, etc. As noted, it is pro-

What TEX is; how it works; Its advantages for millmen

posed for use in all branches of the textile industry. The tex number as defined by the ISO is equal to the mass of the yarn in grams divided by its length in kilometers, or:

Tex units are based on grams per thousand meters. (A tex unit is accordingly one ninth of a denier unit.)

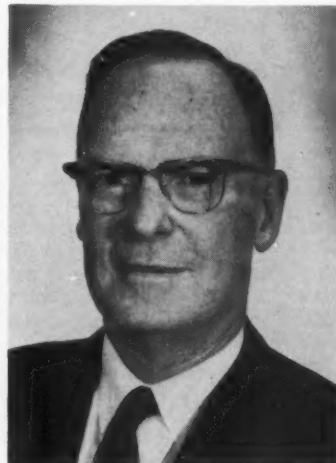
Two other related units have been recommended for use on an optional basis.

Millitex units, based on milligrams per thousand meters—for fibers.

Kilotex units, based on kilograms per thousand meters—for coarse structures such as tows, tops and laps.

It will be noted at once that the tex system, like the denier system, is based on metric units, i.e., grams and meters, a situation that greatly facilitates calculations, and that it is a direct system so that the yarn number increases with the size or weight of the yarn.

Dr. Scroggie, who was born in Canada and educated at the University of Alberta and University of Illinois, has spent his professional life with the Du Pont Co. After a number of years as supervisor of Analytical Research in the Rayon Division, he became manager of the Textile Research Characterization Laboratories in Wilmington where he has been located since 1950. Dr. Scroggie has been active in the work of ASTM Committee D-13 where he has served as both 1st and 2nd vice chairman.



Arthur G. Scroggie

Paper presented at the February 1, 1961 meeting of the American Association for Textile Technology at New York, N. Y.

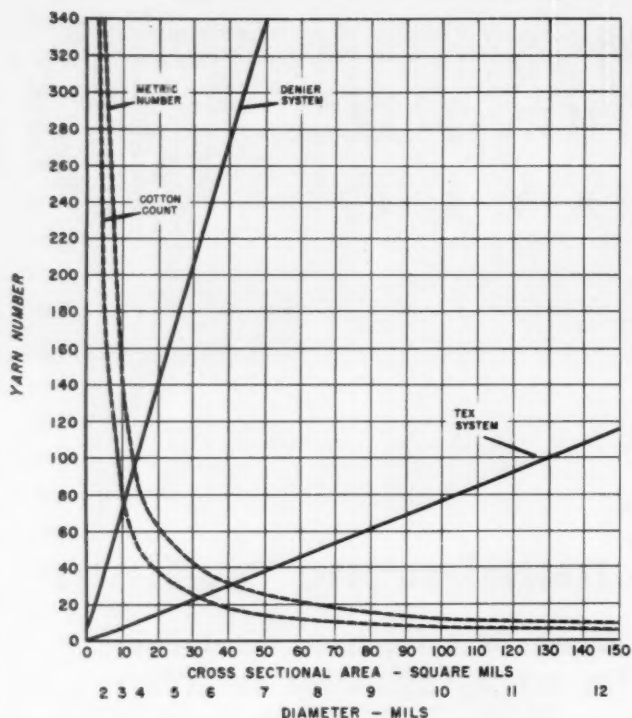


Figure 1

Linear density of cellulosic yarns in various systems

As a first consequence, a given difference in yarn number has the same meaning, i.e., the same change in weight, at all parts of the scale, and tex numbers have a linear relationship to other direct numbers such as denier numbers, also to ounces per yard commonly used for picker laps, and to spyndles used in the jute industry. As a second consequence, the tex numbers increase as numbers decrease in indirect systems, i.e., cotton counts, worsted hanks, linen leas, etc. These relationships are shown in Figure 1.

Advantages of Tex System

This is an age of standardization and interchangeable parts. We are all aware of the benefits, in the form of a high standard of living that has come to us through the interchangeability of parts in various manufactured articles. One example is the automobile; other examples include textile manufacturing machines such as cards, draw frames, and looms. At the present time every one dealing with yarns made from different fibers suffers from lack of interchangeability of parts with respect to the units used to measure yarn size, fineness, linear density or number; all of which are merely different terms used to express the same concept. The tex system provides for interchangeability of yarn numbers. Those nations that use it will benefit, and those that do not will be less efficient and in the long run will suffer in a competitive market.

All mills spinning yarns from fibers of any kind will secure an appreciable simplification in their op-

TABLE I
Yarn Numbering Systems in Common Use for Different Fibers

Fiber and System	Unit
INDIRECT SYSTEMS (LENGTH PER UNIT MASS)	
Wool — Yorkshire Woolen Skeins	256 Yd. Skeins/Pound
Wool — American Woolen Run	1600 Yd. Runs/Pound
Wool — Worsted Count	560 Yd. Hanks/Pound
Cotton — Cotton Count	840 Yd. Hanks/Pound
Linen — Linen Lea	300 Yd. Hanks/Pound
Asbestos — Asbestos Cut	100 Yd. Cuts/Pound
Glass — Glass Cut	100 Yd. Cuts/Pound
All Fibers — Metric Number	Kilometers/Kilogram
DIRECT SYSTEMS (MASS PER UNIT LENGTH)	
Silk — Denier	Grams/9000 Meters
Man-Made Fibers — Denier	Grams/9000 Meters
Jute — Spyndle	Pounds/14,400 Yd. Spyndle
All Fibers — Tex	Grams/Kilometer

TABLE II
Numbering Systems Used for Woolen Yarns

System	Location	Unit
Alloa	Scotland	11520 Yd. Spyndles/Pound
Galashiels	Scotland	300 Yd. Cuts/24 Ounces
Hawick	Scotland	300 Yd. Cuts/26 Ounces
Dewsbury	England	Yards/Ounce
West of England	England	320 Yd. Snaps/Pound
Yorkshire	England	256 Yd. Skeins/Pound
Irish	Ireland	Yards/25 Ounces
American	New England	1600 Yd. Runs/Pound
American	Philadelphia	300 Yd. Cuts/Pound
Metric	Europe, Etc.	Kilometers/Kilogram

erations if they adopt the tex system for numbering their yarns, as compared to traditional numbering systems used at present. This follows because the material being processed can be handled at all stages according to a single set of numbers with no parts that are not readily interchangeable. The calculation of drafts at different stages is materially simplified. These conditions are indicated in Tables III, IV, and V, based on different spinning systems.

of course started out with cotton cords and now for the benefit of their accounting division, converts the nice round 1650 and 1100 denier numbers of the man-made tire yarns they currently use, into their equivalent cotton counts.

If we are going to use one system for yarns made from all fiber types, we should be reasonably logical and adopt a system which offers the most advantages. In this connection, direct numbering systems are

TABLE III
COTTON (CARDED) SPINNING LAYOUT
In Tex and Cotton Hank Numbering Systems

Ends Fed.	Processing Stage	Traditional Number	Tex Number	Draft
	Picker Lap	14 oz./Yd.	434,000	
1	Card Sliver	50 Grains/Yd.	3,500	124.0
6	Draw Frame Sliver	56 Grains/Yd.	4,000	5.25
6	Draw Frame Sliver	56 Grains/Yd.	4,000	6.0
1	Roving	2.5 Hank (C. C.)	240	16.6
2	Yarn	20 Cotton Count	30	16.0

TABLE IV
WORSTED (AMERICAN) SPINNING LAYOUT
In Tex and Worsted Hank Numbering Systems

Ends Fed.	Stage	Traditional Number	Tex Number	Draft
	Top	2.3 oz./5 Yards	14,200	
4	Pin Drafter Sliver	160 Grains/Yd.	11,300	5.0
5	Pin Drafter Sliver	90 Grains/Yd.	6,400	9.1
5	Pin Drafter Sliver	50 Grains/Yd.	3,500	9.1
1	Roving	5.5 Grains/Yd.	390	9.1
1	Yarn	30 Worsted Count	30	13

TABLE V
WORSTED (BRADFORD) SPINNING LAYOUT
In Tex and Worsted Hank Numbering Systems

Ends Fed.	Processing Stage	Traditional Number	Tex Number	Draft
	Top	2.0 Oz./5 Yds.	12,400	
3	Gill Sliver	220 Drams/40 Yds.	10,700	3.3
6	Gill Sliver	256 Drams/40 Yds.	12,400	5
3	Gill Sliver	110 Drams/40 Yds.	5,300	7
1	Finisher	55 Drams/40 Yds.	2,650	2.0
1	Reducer	15 Drams/40 Yds.	730	3.7
1	Roving	4.2 Drams/40 Yds.	210	3.5
1	Yarn	30 Worsted Count	30	7.0

A moment's consideration will indicate that reduction to a single unit is fairly comparable to the mental process that most persons go through more or less unconsciously. Most people who start to work in a textile mill become familiar with the particular numbering system used there, and they do their thinking in terms of the units used in that system. As their experience broadens and they encounter new or different units, they commonly convert the new units to the one with which they are most familiar and make their calculations on this system. A specific example is the practice of a large tire company which

highly recommended because they are equally useful at both ends of the fineness scale; they apply to both fibers and yarns, also to slivers and tows if desired. Indirect systems, on the other hand, have very serious limitations. Everyone is familiar with the fact that the system based on cotton counts uses quite large numbers for very fine yarns but practically cannot be used for single cotton fibers which are commonly measured in micrograms per inch, a sort of hybrid noninterchangeable part. Really fine yarns cannot be made from cotton fibers, efficiently. While this limitation of the system based on cotton hanks is not serious

in cotton spinning mills, it would be a serious handicap for use with low denier manmade yarns or staple fibers. Similarly, at the other end of the scale, increasingly large, coarse yarns must be represented by small decimal fractions which are unhandy to use and present an invitation to mistakes in calculations, owing to misplacement of the decimal point. The same considerations apply, in general, to all indirect systems including worsted counts, woolen runs, linen leas, metric units the typp system and a host of others. The relationships just discussed are pictured in Figure 1.

In contrast, the tex and denier systems can be used for fibers, yarns, rovings, slivers, laps, etc., with no technical or practical difficulties. The tex and other direct yarn numbering systems offer other advantages in the handling of yarns after they are spun. Familiar examples are the problems of calculating the equivalent single yarn number of a plied yarn. The average of the direct yarn number is the arithmetic mean, but the average of indirect yarn numbers is the harmonic mean. The difference is small when the numbers to be averaged are close together, but increases as the numbers diverge. The average of ten, 20 and 30 deniers is 20, but the average of ten, 20 and 30 cotton count is $5.5 \times 3 = 16.5$. Calculations of the number of a plied yarn made from single yarns having different counts, designed to obtain novel effects or other differences to increase the saleability of the resulting fabric, becomes more complicated when using indirect systems. For example, if one plies a 20 denier and a 40 denier single yarn, the resulting number will be approximately 60 denier; one has a very simple addition with direct numbers. If, on the other hand, one plies a number 20 single yarn with a number 40 single yarn, using numbers in an indirect system, the resultant yarn is approximately 13 and one almost needs to be a mathematician to figure it out. One relatively easy way is to convert both of the indirect numbers to tex ($20 \text{ c.c.} = 30 \text{ tex}$ and $40 \text{ c.c.} = 15 \text{ tex}$), add these numbers and then convert back to cotton count. In this case, add $30 + 15$ to get 45, equivalent to 13.1 cotton count. If the two yarns were 20 and 40 worsted count, the answer would be the same ($44 \text{ tex} + 22 \text{ tex} = 66 \text{ tex} = 13 \text{ w.c.}$).

There are many other advantages associated with the general use of a single universal yarn numbering system. It is obvious that once a fabric design has been worked out to secure the proper relationship between fabric weight, yarn number and fabric count, the design would be applicable to yarns of all fiber types and all blends of mixed fibers, having approximately the same density. When density differs it will still be necessary to take account of the possible effect of the change on cover and hand of the fabric, but this will not involve any steps not currently taken, and approximate values will be simplified where fibers currently numbered in different systems have approximately the same density; e.g. wool and acetate, density = 1.31 and cotton and rayon, density = 1.54.

The use of a single system of yarn numbering obviously offers simplification in accounting, inventory control and related practices. Systems in which yarn is bought by the pound and used by the yard involve the use of a conversion factor depending on the system used. Use of a single yarn numbering system would reduce the variety of factors required for such calculations, and minimize the possibility of errors through use of the wrong factor. The relationship between pounds in stock and potential fabric yardage would be the same for yarns of all fiber types having the same tex number.

The use of a single system would prevent mistakes which occur from time to time when it is necessary to convert yarn numbers calculated in one system over to another. The general use of a single system would entirely eliminate the need for such conversions.

The general use of a single system would greatly facilitate international trade involving yarn specifications or fabrics which include yarn specifications. The exchange of technical data would also be facilitated.

As a corollary, it follows that considerable time would be saved in textile schools if the undergraduates had to learn only one system and did not have to take any time learning to convert yarn numbers, an operation which after all is actually a needless waste of time. The existing situation will reduce their efficiency through the whole of their working lives as long as the textile industry continues to be based on the variety of systems now in general use.

Present Status of Tex

If this universal yarn numbering system is almost perfect, why has it not been adopted before this? While no serious technical objections have been raised, various reasons for delay have been offered; these include suggestions such as these:

- (1) Metric units would not work in this country.
- (2) It would get everyone confused.
- (3) The cost of installation would be prohibitive. It would be necessary to hire extra people to calculate yarn conversions. All testing instruments would have to be recalibrated, also many pay scales.
- (4) Tex equivalent yarn numbers would be "all decimals".
- (5) I am too busy to bother with it, even though it is good.
- (6) The cotton system was good enough for my father and grandfather, so why should I vote a different ticket.

Let us examine some of these comments briefly. First, be assured the tex yarn numbering system does work, beautifully. For practical purposes, the tex system is a blood brother of the denier system which has been working well for 50 years in the manmade fiber industry and for many years before that in the silk industry. The growth of the manmade fiber industry in recent years is very good evidence that the denier system works well. It has been chosen by the producers of all new manmade fibers, with the exception of glass. In addition to this evidence by analogy, several cotton spinning mills and laboratories are using the tex system with complete satisfaction.

The biggest mill about which information is available is that of the Alpargatos Co. who operate cotton spinning mills with many thousand spindles in Argentina and Uruguay. They have been using this system for many years and started it in fact long before the word "tex" was coined. They use it for their own convenience in all intermediate operations because of its inherent advantages and despite the necessity to convert the numbers of the yarns which are sold to the trade, back to the traditional English cotton count. It is true they are operating in a country where metric measures are normal and familiar, but the training of laboratory technicians to handle the denier system has never presented any problem in this country or in the United Kingdom. The same general situation applies to the mills operated by Herman Bühler and Co. A.G. in Switzerland. In the case of the Alpargatos mills, it is understood the tex system was introduced by a Scotsman and this may explain why the com-

pany has been busy profiting by the use of the system, but has not spent time trying to induce others to profit similarly.

In the U.S.A., the cotton spinning laboratory at the University of Tennessee operates on the tex system. While this is a small operation in poundage, it is complete in that it starts with cotton fibers and turns out yarn for testing. They find the tex system ideal for their work and much more efficient than the traditional cotton spinning system, even though they find it desirable to convert their final results to cotton counts to present their data to their clients.

The tex system is used in a similar fashion in the experimental laboratories of the Dutch Enka Corporation (the AKU) in Holland.

Spain Uses Tex

The tex system is also used more or less extensively in Spain where the textile industry has been told to do what is best for them by an unbiased dictator, acting on the advice of technical experts. In the U.S.A., of course, we operate on a democratic system and we can muddle along with the confusing traditional systems just as long as we choose.

There can be no question but that the tex system works and works well wherever it has been tried. It has been approved not only by the International Organization for Standardization but by trade associations. For example, the Federation of Master Cotton Spinners' Associations Ltd. and others in the United Kingdom have issued a booklet to their members which includes the following statement.

A joint committee set up by the Federation of Master Cotton Spinners' Associations Ltd., the Yarn Spinners' Association and the Cotton Yarn Doublers' Association has considered these proposals and has recommended that the first stage of the introduction of Tex should be proceeded with as soon as possible. This recommendation has been endorsed by the parent bodies. (Quoted from page 6 of a brochure issued by the Federation of Master Cotton Spinners' Associations Limited.)

In the U.S.A. the ASTM has issued a recommended practice covering the use of the tex yarn numbering system; Designation D 861-58T. The ASTM has also issued a brochure discussing the tex system and including handy conversion tables covering cotton counts, worsted counts, American woolen runs, and denier units.

The standardizing authorities in many nations are issuing appropriate standards to authorize and encourage its use in their countries. We can expect gradual adoption before long. It is in fact already in progress in some cases. For example, in India, government specifications for yarns and fabrics are now being written in terms of tex numbers with traditional numbers in brackets or parentheses.

India and South Africa are changing over their currency from one modeled on the English system to one based on the decimal system, a change we made in this country in 1792. Many Americans from time to time have suggested that the British who still base their currency on pounds, shillings, and pence are a little backward. Well, before long the Indians and others will be looking at the American textile industry and noting how backward we are in the U.S., if we do not soon adopt the tex system.

The objection based on increased confusion has a real basis. It is believed, however that this period would be of relatively short duration and actually a small price to pay for the simplification and time saving that would be achieved for the future.

During the introductory period, many people would have to learn the new system and become familiar with tex units. It cannot justifiably be argued, however, that people who have mastered and operated successfully under the present situation, using a different unit for every natural fiber, could not handle tex units in addition to denier units, cotton counts, spyndles, worsted hanks, woolen runs and the other units they now have to live with and use in their everyday operations at present. Many of the required conversion tables are already in existence. As long as the short word tex is placed alongside the number, there will be no mistakes and tex is as simple to write as cotton count or American woolen run.

Practically, tables would be worked out to cover all conversions frequently required. Once the conversion tables are available no more time will be needed for these calculations. A scale showing equivalent tex numbers could be placed over existing scales currently calibrated in other numbering units at minor cost. Tables could be prepared to show equivalent work loads in tex and traditional units.

It is visualized that time required for frequent conversions will be relatively small. Once tables are available, no more calculating time will be necessary and of course general adoption of the tex system would eliminate all the time currently spent in comparing yarn counts in different systems.

Other Objections Answered

An objection based on an entirely different point is that if tex numbers are used exclusively without other supplementary data, some background information will be lost; for example the statement "a 30 worsted count yarn" gives information that can only be covered by supplementing the equivalent "number 29 tex" with the descriptive phrase "worsted-spun". Similar information should however be included in describing any yarn which might be spun by different systems and will actually lead to more precise data on many points which are currently left vague.

A practical objection is that exact tex equivalent numbers of round traditional counts will generally carry one or more decimals and this would be undesirable in manufacturing operations. This point has been recognized by the ISO committee who have recommended a set of rounded yarn numbers which over several decades of numbers will cover all the yarns currently made commercially. The rounded numbers in some cases are a bit higher, in others they are slightly lower than the exact traditional equivalents, but in most cases it is believed the variations lie within the tolerances currently experienced in the commercial production of spun yarns. A few cases, however, may require special treatment.

An indirect objection to the tex system which is occasionally heard runs along these lines. "Granted that one system is desirable and a direct numbering system is better, why does everyone have to learn a new system? Why don't we just use the denier system which is already familiar to many?" There are several answers to this question. First, while such an opportunity has been available for many years, there has been little or no evidence of any desire on the part of the producers of yarns made from natural fibers to adopt the denier system, generally used by producers of manmade fibers. Second, tex numbers based on 1,000 meters have a slight mathematical advantage over denier numbers based on 9,000 meters, because the former fits into the metric system perfectly and results in fewer decimal fractions in textile calculations. It is easier to divide by 10 than by 9. The

philosophy has been that if we are going to adopt a new system involving a certain amount of work and effort, we should not settle for anything short of the very best. Third, a majority of members present in the ISO discussions on yarn numbering had a natural fiber background and wanted two-digit numbers for common yarns, for example 20 tex instead of 180 denier. Numbers in the grex system, which are very close to denier numbers and were also under consideration for several years, were voted down because of this feeling, and a lack of appreciation for the desirability of a system that would include both fibers and yarns in a single spectrum of numbers.

Method of Adoption

Proposals for introducing the Tex Yarn Numbering System have been made by the ISO Technical Committee 38. Briefly they suggest introduction in three stages:

Stage 1

Printing of rounded equivalent tex numbers in "()" after the traditional number in all printed matter. This is interpreted to mean on all labels and technical publications in journal articles, bulletins and individual documents passing from one company to another, such as invoices. The tex equivalent at this stage has no legal significance.

Stage 2

Make and sell yarns numbered in the tex system but include the exact traditional equivalent in "()" after the tex number as previously described. Commercial tolerances apply to both numbers in this case.

Stage 3

Drop the practice of printing equivalent traditional numbers in "()".

The committee recommends that Stage 1 be started at once.

Practical Difficulties

One minor difficulty in applying Stage 1 has developed in those companies that use IBM accounting machines. In general, these do not have facilities for printing "()" and the cost of getting a device to print this is appreciable. One suggestion in this case is to use the letter "t" before and after the equivalent tex number, instead of the "()".

A more serious situation is that most companies have used up all available space on their IBM cards with essential or desirable information so that the rounded tex equivalent cannot be printed without sacrificing other desired data. Where this situation exists, we have two alternatives, either print the equivalent tex number along with additional desirable information in a second line, or pass up Stage 1 with respect to IBM accounting and plan to go to the next Stage as soon as possible.

It is quite probable that little useful instruction is achieved by reprinting rounded tex equivalents in inventories or a variety of repetitive reports made within a company and used by a limited number of personnel.

One point should be emphasized: the inability to carry out the committee's general suggestions to the letter should not be used as an excuse for not doing as much as possible, and for not making a start on the educational phases of the program.

Future Planning

Implementation of Stage 2 involves making decisions on several points that it would be desirable to

settle early in Stage 1, or even before adopting Stage 1. The suggestion is to establish early agreement on certain conventions or practices regarding the use of the tex system that will be followed later in Stage 2, for example:

1. It would be desirable to agree that tex values only, be used in a spinning room, and reserve the kilotex numbers for use elsewhere, for example in describing tows, tops, laps and other coarse structures, particularly when passing from company to company, for instance, between a fiber producer and a yarn spinner.

2. All values of tenacity should be in terms of grams/tex even though the original specimen was measured in terms of kilotex or millitex instead of tex.

3. Twist multipliers should be calculated in terms of tex numbers and turns per cm to get values roughly 10 times those obtained with cotton counts and twist in turns per inch. The formula actually used will probably be $\sqrt{\text{tex}} \times 0.4$ turns/inch, in English-speaking countries, and $\sqrt{\text{tex}} \times 0.01$ turns/meter, in "metric" countries.

4. Rounded equivalent tex numbers used in Stage 1 should be selected to coincide with those that will likely be made in Stage 2. An important case is that of 840 denier nylon yarn made for use in tires; the exact tex equivalent is 93.33 and the recommended rounded tex equivalent is 92. However, manufacture and use of 92 tex yarn might require a change in all tire specifications using this yarn and it might be preferable in this instance to make a 93 tex yarn, even though it is not one of the yarn numbers recommended by the ISO committee. At the low end of the scale, 50 denier yarn = 5,555 tex exactly. While this could be made it appears simpler to settle on either 5.5 or 5.6. The slightly heavier yarn, viz. 5.6 tex, is recommended, but an even 6.0 tex yarn (54 denier) could be made.

5. The manmade fiber producers should decide if they will make staple with simple rounded tex numbers or not, e.g., will 1.0 denier staple be replaced with 0.1 tex or 0.11 tex, and will 3.0 denier staple be replaced with 0.33 tex, 0.34 tex or 0.35 tex.

6. The manmade fiber producers should also decide if they wish to number staple in tex units which will require decimal fractions, or use the millitex units proposed by the ISO, or consider using decitex units, e.g., 3 denier = 0.333 tex = 333 millitex = 3.3 decitex.

The principal features of the tex numbering system have been described briefly; more information is available for anyone interested. Adoption of the tex system for all fibers presents a real challenge to everyone in the textile industry. The thing most lacking at present is a willingness to suffer some temporary inconvenience for the ultimate good, and to be willing to be among the first to try the new system. Everyone is urged to bring up the adoption of the tex system in his own company and trade group and to start using Stage I in his own operations.

Bronner, Simmons Re-elected

In the recent elections for 1961 of the American Association for Textile Technology, Inc., Miss Bernice S. Bronner was re-elected Secretary and Fred H. Simmons re-elected Treasurer. Miss Bronner was also elected Secretary of the New York Chapter of the Association.

For knitting fancy stitch fabrics

NEW CIRCULAR LINKS MACHINE

Wide variety of self designs, plain and striped fabrics are possible with new jacquard unit

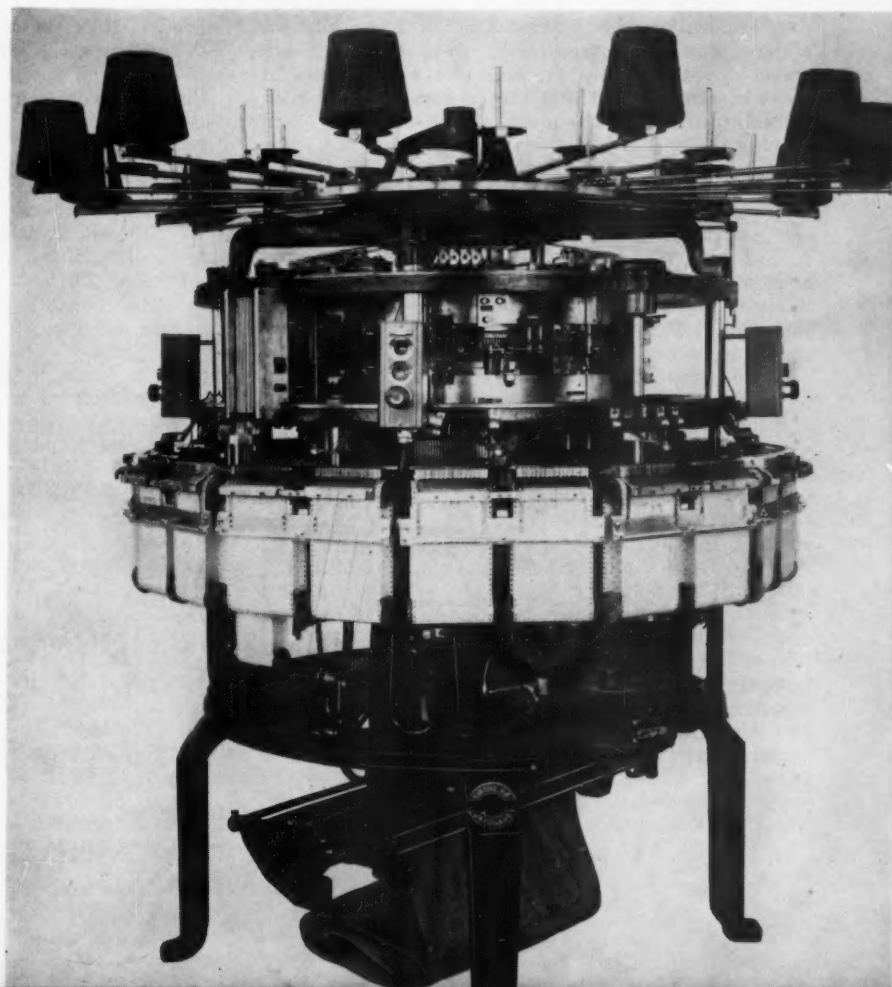
WILDMAN JACQUARD CO., Norristown, Pa., has brought out its new 30" diameter Model LHDS-6 machine to supplant the firm's standard Model LH-6 links machine. According to Wildman Jacquard, all the regular features of the LH-6 machine have been retained in this revised and improved model, including 3 color yarn changers independently controlled at each of the 6 feeds; automatically adjusted stitch cams for both cylinders at each feed; an automatic card control automat which provides for automatic changes from separating course to French Welt edge to 1 x 1, 2 x 2 and tubular cuff to body fabrics as required.

An automatic oiling system and a two speed vertical motor drive with jogging features are also provided. According to Wildman Jacquard, the new 30" diameter LHDS-6 is capable of producing a much wider variety of fancy stitch fabrics than ever before and the machines are available in cuts from 3 to 12 $\frac{3}{4}$ needles per inch.

The lower cylinder jack camming has been completely revised to permit the automatic selection of individual needles at each feed for knit or transfer or tuck or welt. This four position selection potential now permits each feed to form stitch combinations that were either previously impossible to obtain or required the use of two consecutive cam sections (or feeds) of the LH-6 machine. With the jacquard mechanism making the individual needle selections an almost limitless variety of self designs, fancy stitch effects, color designs, plain and striped fabrics, with or without panels, are possible and all with knit on tubular, 1x1, 2x2, or other rib cuffs including:

1. Plain jersey body.
2. Jersey design on link-link background.
3. Designs consisting of areas of jersey, reverse jersey, links and links and cross links and panels of all kinds.
4. Plain half cardigan or half cardigan background with selective stitch designs.
5. 2x2 rib in any part of the garment.
6. Colored float fabric with automatic or selective designs.
7. Tuck effects (automatic or selective).
8. Combination fabrics of stitches and color previously considered impossible to knit on circular links machines.

Previously the jacquard mechanism as applied to the LH-6 machine was limited to making individual needle selections at each lower cylinder knitting section or feed from any one of the following combinations depending on the cam set-up in that sec-



NEW KNITTER—Wildman Jacquard Co.'s Model LHDS-6 links machine will be on display at the Knitting Arts Exhibition this month at Atlantic City

tion at that time: knit or welt; knit or tuck; transfer or tuck; transfer or welt.

It is obvious from the above combinations that any one needle is limited to one of two choices when passing through any one lower knitting cylinder section or feed. When making certain fabrics or stitch combinations it was often necessary, on the LH-6 machine, to utilize the selections available in two consecutive lower sections in order to obtain the required results. For example, when knitting self designs in half cardigan fabrics, the first section would be used to make up the purl section of the pattern by selecting certain needles to be transferred to the upper knitting cylinder while the remaining needles would be knit off in the lower knitting cylinder. On the next section, those needles that had been transferred to the upper knitting cylinder remained in that cylinder and knitted the purl background. The needles remaining in the lower knitting cylinder were selected to knit or allowed to pass through the welt channel and were raised to the tuck position by the action of the tuck cam. (The next upper section was used to return all needles to the lower knitting cylinder so that the sequence could be repeated). When fabrics were produced in this manner it appeared that the second section had made three separate selections at one time when actually the combined selective capacity of two consecutive sections were required. On the LHDS-6 machine this same fabric as noted above could have been produced using a single section to make the necessary selections.

The jacquard mechanism camming for the LHDS-6 machine has been redesigned so that now an individual needle may be selected at each cylinder knitting section or feed for any one of four different actions, knit, tuck, transfer or welt. (Even though these moves are now available for each needle, it must be remembered that the fundamentals of good fabric knitting practice must still be observed when making the needle selections).

Changes Noted

It will be noted by comparison with the standard LH-6 section cam layout that substantial changes have been made in the lower portion of the LHDS-6 lower cylinder race cam section which formerly consisted of the jacquard knit cam and the jacquard transfer cam. The LH-6 system used a short or long single butt push jack which was lifted onto the jacquard knit cam by the action of a rocker lever selected by the jacquard mechanism from a punched pattern card. The pattern card was indexed six times (once for each section) for each revolution of the knitting head, permitting each needle only one selection from the pattern card at each of the six sections or feeds.

The new LHDS-6 system consists of a double butt push jack (the upper butt may be short or long and the standard set-up is 2x2, the lower butt is long only), operating thru a special lower jacquard cam section. At a point "A" the upper butt may be selected up onto the first jacquard dividing cam and this same push jack may be reselected at a point "B" raising the upper butt onto the jacquard transfer cam. If this push jack were not selected at point "A", it could be selected at point "B", raising the upper butt onto the second jacquard dividing cam. Both selections are made by the action of a rocker lever selected by the jacquard mechanism from a punched pattern card. (See Figure 1) The pattern card is indexed 12 times (twice for each section) for each revolution of the knitting head which permits two needle selections from the pattern card at each of the 6 sections or feeds.

The LHDS-6 machine contains the same upper and lower knitting cylinder cam sections as are used on the LH-6 machine. The links-links courses at the top of the garment, the separation course, the rib cuff and all plain bodies are still produced in the same manner as on the regular LH-6 machine. (The 2 x 2 cam selects the needles for the 2 x 2 rib cuff, at section #3, the same as on the LH-6 machine, using the 2 x 2 upper butt push jack set-up).

For jacquard patterned fabrics where individual needle selection is necessary (either for stitch or color) the jacquard mechanism is put into operation and all lower knitting cylinder section cams (gate cams, french welt cams, transfer cams and tuck cams) are taken out of operation while the transfer cams and gate cams on all upper knitting cylinder cam sections are put into operation so that all needles that are transferred to the upper knitting cylinder are knitted and returned to the lower knitting cylinder section at each feed for reselection by the jacquard mechanism. The selection of the needles is then completely controlled by the jacquard pattern card.

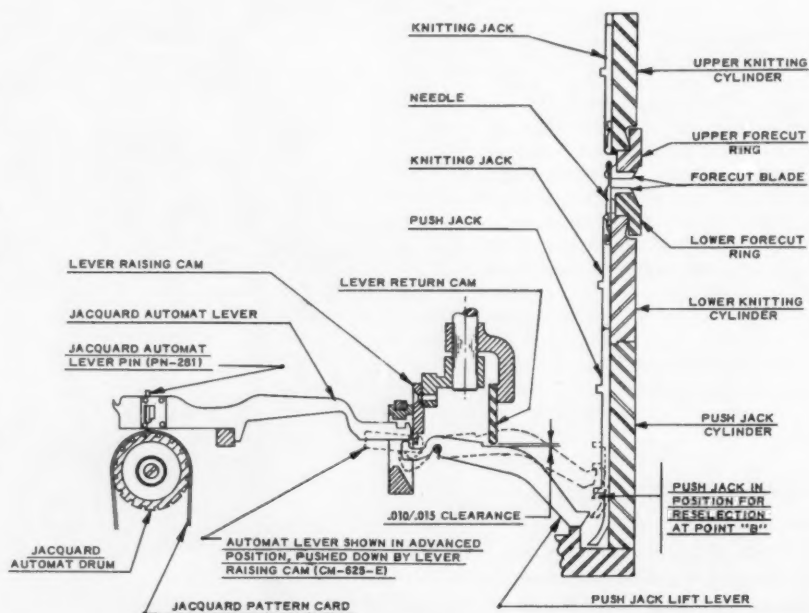


Figure 1

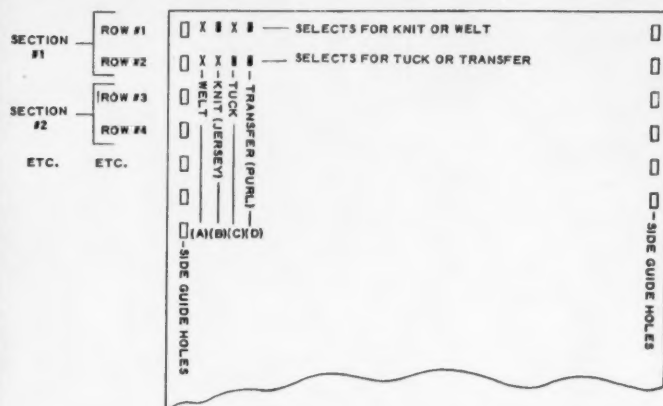


Figure 2—LHDS-6 Jacquard Pattern Card

In order for the jacquard pattern card to make two separate needles selections in each section the pattern card is indexed twice as each cam section passes, therefore, we must consider the pattern card index holes in groups of two. The automat levers when operating for section #1, for instance, would be controlled by any holes punched in rows 1 and 2 on the pattern card, the automat levers when operating for section #2 would be controlled by holes punched in rows 3 and 4 on the pattern card, etc. Figure 2 shows a portion of the jacquard pattern card for the LHDS-6 machine indicating how the card would be punched to select a needle for any one of the four possible selections in section #1.

With reference to Figure 2 it will be noted that;

- No hole has been punched in either Row #1 or in Row #2 for automat lever #1, therefore, no selection is made for that lever and the needle controlled by that lever will pass thru section #1 in the welt position.
- One hole has been punched in Row #1 and no hole has been punched in Row #2 for the automat lever #2, therefore, a selection is made at point "A". This selection places the upper butt of the push jack, controlled by this lever, up on the 1st jacquard dividing cam which will raise the knitting jack (by means of the following cam) to the lower section knit channel. This will place the needle in a position to knit off a jersey stitch.
- No hole has been punched in Row #1 and one hole has been punched in Row #2 for automat lever #3, therefore, no selection was made at point "A" but a selection was made at point "B". This selection places the upper butt of the push jack, controlled by this lever, up on the 2nd jacquard dividing cam which will raise the knitting jack (by means of the following cam) to the tuck position. This will place the needle in a position to take on yarn while in the tuck position.
- A hole has been punched in both Row #1 and Row #2 for automat lever #4, therefore the hole punched in Row #1 will make the first selection at point "A". This selection places the upper butt of the push jack, controlled by this lever, up on the 1st jacquard dividing cam which will raise the knitting jack (by means of the following cam) to the lower section knit channel. At a position directly above point "B" the same push jack is re-

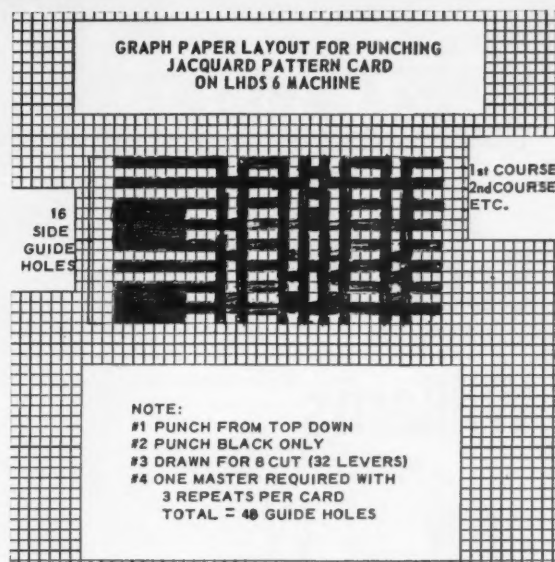


Figure 3

selected as a result of the action caused by the hole punched in Row #2 for automat lever #4. (See Figure 2) This action raises the butt of the same push jack high enough to place it on the jacquard transfer cam which continues to raise the push jack (and the lower cylinder knitting jack) until the knitting jack butt is placed on the lower section stationary transfer cam. This cam then completes the transfer of the needle to the upper cylinder in the regular manner.

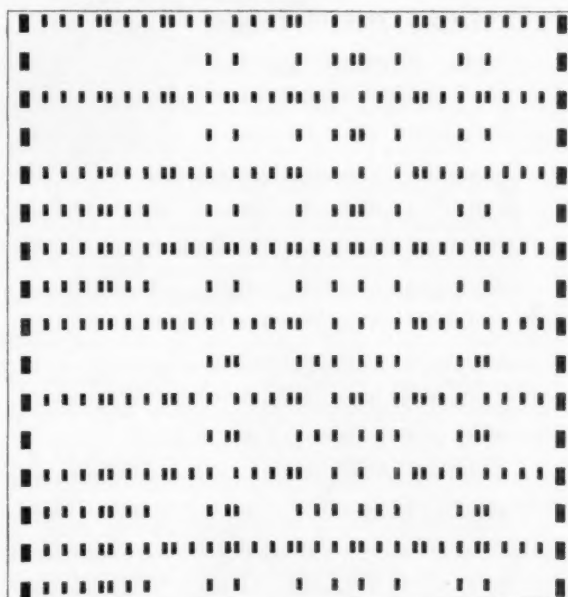


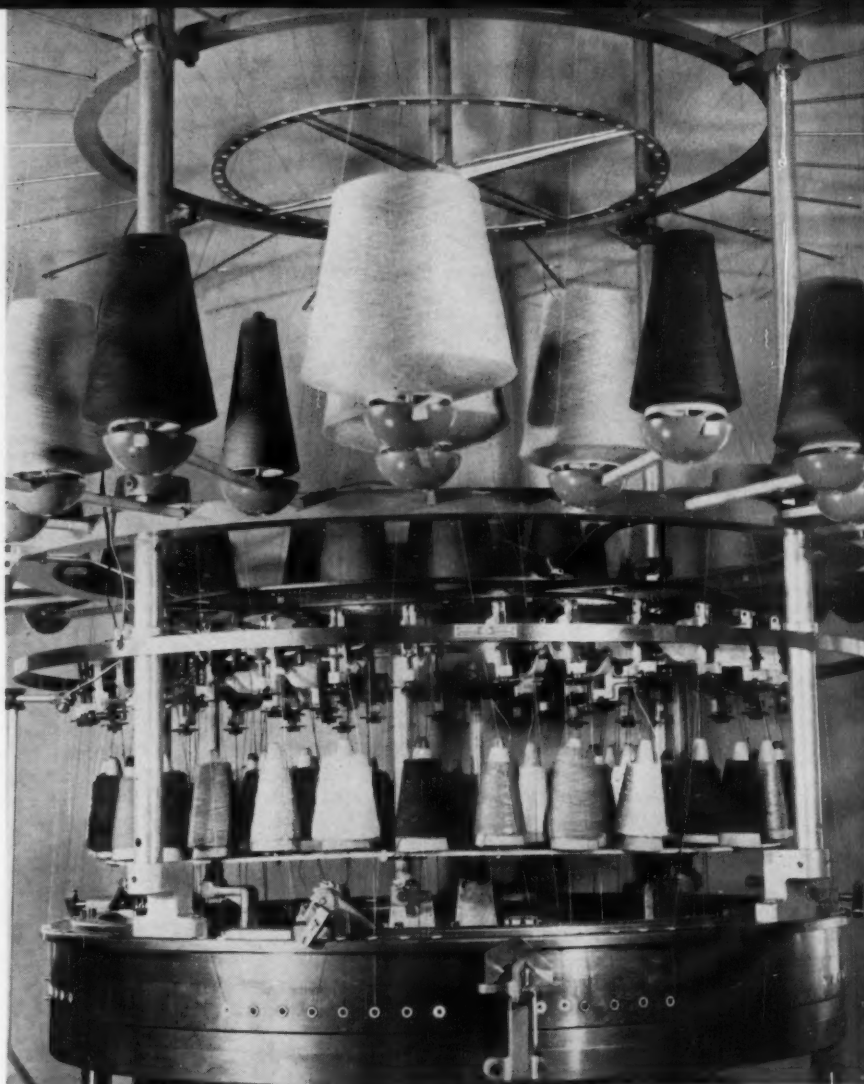
Figure 4—Sample portion of the punched pattern card made from graph paper layouts as shown in Fig. 3

When making a graph paper sketch for producing self designs or color designs on the LHDS-6 machine, two rows of squares are required for each course of knitting. Figure 3 shows a sample graph paper sketch as drawn for an 8 cut machine having 32 levers in each automat (one automat drum). Figure 4 shows a portion of this same pattern after being punched on jacquard pattern card. ■

Knitting

Scott & Williams' new LPW machine

Broad range of styling effects possible with new circular knitter



CLOSE-UP OF LPW MACHINE—This patented superstructure houses the unique "wrap-around" elements for introducing the effect yarns to groups of selected needles

AT THE KNITTING ARTS EXHIBITION in Atlantic City this month Scott & Williams, Inc., will introduce its patented LPW machine. This new circular knitting machine is said to represent a radical departure from existing techniques for incorporating both "sculptured" or smooth design effects in jersey fabric. The fabrics knit on the LPW are of the basic jersey construction. They present in some structures striking similarity in appearance to the better type of woven fabrics, according to Scott & Williams. Yet they are said at the same time to retain the warmth, draping qualities, and handle characteristic of knitted goods. It is claimed that this feature alone will make the machine of special interest to knitting mills seeking the "woven look". Similarly, the machine should appeal to weaving mills desirous of diversifying their existing lines by the addition of knitted fabrics which possess many of the qualities of the better type woven fabrics.

According to Scott & Williams' standards, the unit will produce, in a wide range of weights, a wide array of fabrics which combine textured surface interest, patterning scope and multicolor schemes in a

broad variety of striking arrangements. The method of fabric construction imparts to it the appearance of depth and warmth and yet insures a 3-dimensional fabric light in weight. The machine will handle all types of natural and synthetic yarns—especially unusual effects being achieved with metallic, knop, boucle, slub, mohair and chenille yarns. Significantly, the LPW will produce fabrics for the jersey (6½-7 oz.), suiting, coating, sweater, swimwear, children's, upholstery, corset and stole trades—all without change in any of the knitting mechanism.

The machine is a 32-feed, 26" diameter, 18 cut, stationary cylinder, sinker-top machine with needle selection by the popular 3-position pattern wheel. The unit will come equipped with 4-finger striping boxes and conventional stop-motions. The heart of the machine is a patented superstructure which houses the unique "wrap around" elements for introducing effect yarns to groups of selected needles. The important feature of the wrap mechanism is that it enables the introduction of a wrap yarn to one or to a multiplicity of needles—in excess of 30—from a single yarn source. To those skilled in the art, this

(Continued on Page 72)

Fourt Gets Smith Medal

Dr. Lyman E. Fourt, assistant director of Harris Research Laboratories, received the Harold DeWitt Smith Memorial Medal on March 2 at the Spring Meeting of the Committee D-13 on Textile Materials of the American Society for Testing Materials in New York City. The medal is awarded annually by the Committee for outstanding achievement in the science of textile fiber utilization.



C. E. Rodgers, Jr.

Charles E. Rodgers, Jr., has joined Courtaulds (Alabama) Inc. as special assistant to president Charles L. Paine.



Wm. A. Richardson

William A. Richardson has been named associate sales manager for the Fiber Marketing Department of Allied Chemical's National Aniline Division, and John T. Dunlavy has joined the department as manager-fiber marketing, promotion and advertising.

Dr. Keith Lawson has been promoted to the position of scientist in the newly-created Research Scientist Program of Chemstrand Research Center, Inc.

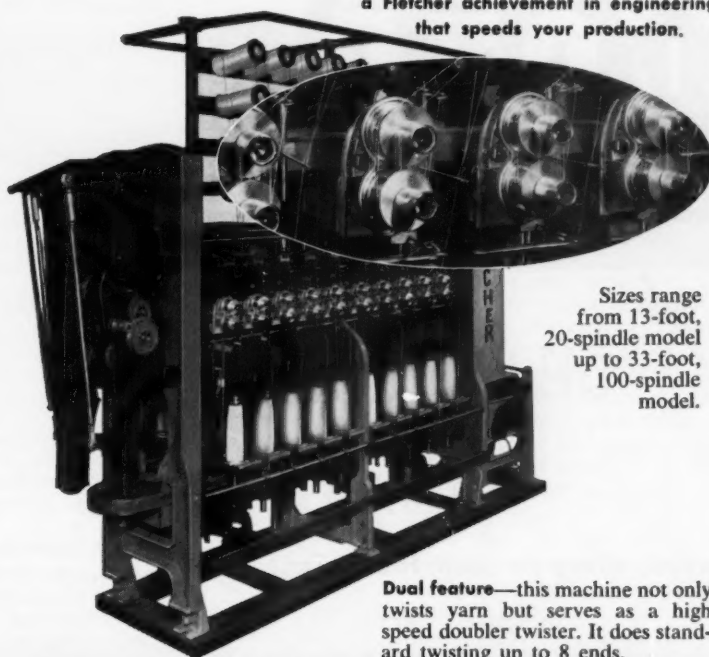
Joseph M. Onorato has been named managing director of Textile Manufacturers Ltd., a subsidiary of Ludlow Corp.

(Further News Notes, Page 93)

NEW from FLETCHER

HIGHEST SPEED NOVELTY YARN TWISTER EVER MADE

This Novelty Yarn Twister, which operates at a speed of 5,000 to 9,000 RPM, depending on the type of yarn used, is a Fletcher achievement in engineering that speeds your production.



Sizes range from 13-foot, 20-spindle model up to 33-foot, 100-spindle model.

Dual feature—this machine not only twists yarn but serves as a high speed doubler twister. It does stand-and twisting up to 8 ends.

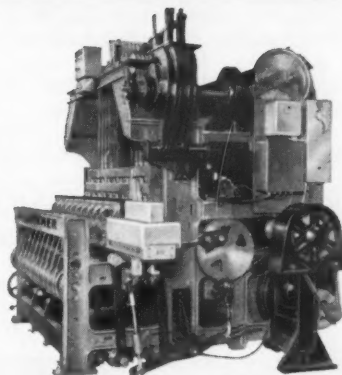
TRY BEFORE YOU BUY with 3-month trial rental plan

Get proof before you pay by evaluating these machines in your own plant. They are available for delivery, completely assembled. See them in operation in the Fletcher Industries Showrooms in Cheltenham, (Philadelphia) Pa.

*for Elastic Webbing.
Glass, Synthetic, Light
or Heavy Cotton Fabrics.*

FLETCHER High Speed POWER-FAB ELASTIC WEB LOOM

Uses less floor area. Maximum production per square foot. Increased operator work load. Greater variety on same machine with minimum of changes.



FLETCHER INDUSTRIES

Hasbrook Avenue and Beecher St., Cheltenham, Pa.

FLETCHER SOUTHERN
SOUTHERN PINES, N. C.

FLETCHER INDUSTRIES
STATESVILLE, N. C.



* the ONE product finish...

which gives to such fabrics as:

Dacron*62-Dacron 54 Crepe
Dacron-Cotton Batiste
Dacron-Cotton Broadcloth
Dacron-Rayon combinations

- Soft and mellow hand.
- Freedom from lint in finish room.
- Ease of handling by the cutter, i. e., no clinging of foreign matter.
- Ease of layout on cutter's table.
- Increased absorption for goods to be overprinted.
- To the consumer, a durable static-free garment which is more comfortable to wear.

* Dupont trade mark



NEW FABRICS

NEW YARNS

Acid Resistant Felt

Hiller Aircraft Corp. is using Troyfelt, a nonwoven Dacron felt, to prevent corrosion of helicopter battery racks. The Du Pont Dacron polyester material, used as a pad beneath the batteries, acts as a blotting material which absorbs spilled battery acid without deteriorating and thus prevents the acid from reaching the aluminum rack and corroding it. Heretofore, Hiller has used wool felt pads which did not satisfactorily absorb the acid.

Nylon Stretch Lace

Lace Art Co. has developed stretch lace of Du Pont nylon, which is expected to find application in the intimate apparel trade. Available in an Alencon-type pattern, both sheer and with backing, the lace currently is being cut by many panty manufacturers and has been sampled by swimwear, glove, girdle and brassiere firms. Leotards are regarded as another end-use for the lace, which is 48 inches wide and has a 4-yard yield in the open mesh and a 3½-yard yield in the opaque version.

Sheer Vycron Casement

Shulman Fabrics is using Beaunit Mills' Vycron polyester fiber in a new sheer casement called "Windway." The converting house reports the new polyester is direct-spun for textural effect and is used with cotton in the filling. Windway contains 30% Vycron and 35% cotton, used in the fillings with 35% warp yarn of Du Pont Dacron. Windway is "almost impossible to crease," according to Shulman. The casement is available in 15 colors of 48-inch widths.

New Cuprammonium Rayon

Tusson, a new cuprammonium rayon development from the American Bemberg specialty yarns department, is said to match silk in blends for the blouse and dress market. Related to Cupioni, which is used mostly in blends with cotton, the new rayon is softer, more finely and frequently slubbed, and has a luster akin to that of silk.

Tusson currently is being blended with 25% silk in soft shantung and silk linen effects by Westerhoff Fabrics' Wedgewood Division. The cuprammonium process used by American Bemberg derives its name from copper and ammonium solvents used in converting wood pulp into spinning solution. The fiber is distinguishable from viscose by its circularity and its whiteness in the natural state. For further information write the editors.

Creslan Blanket Shell

Westinghouse Electric Corp. has introduced a new blanket featuring a 100% Creslan acrylic fiber shell. It marks the initial use of Creslan, American Cyanamid Co.'s acrylic fiber, in blankets equipped with an electric heating element.

Dacron Interlinings

Kyrel, a new all-Dacron nonwoven material manufactured for detail uses in interlinings and interfacings of women's garments, has been introduced by Kimberly-Stevens Corp. The nonwoven all-Dacron product was developed through a thermoplastic bonding process. Kimberly-Stevens reports Kyrel is a "hidden helper" for interfacings and interlinings in women's wear, particularly skirts and blouses. It gives shape without weight and has high strength, in addition to low moisture absorption and non-discoloration properties. Dacron is a polyester fiber made by the Du Pont Co.

KNITTING

Growth area in textiles

Staff Prepared

ON THE EVE of the 45th Knitting Arts Exhibition scheduled for Atlantic City, April 24-28, the entire knitting industry can be proud of an impressive record of achievement during the past few years.

Introduction of new knitting machines, knitting techniques and yarns, plus new end-uses for knitted fabrics in an ever-widening variety of constructions and combinations has infused the industry with a feeling of optimism and confidence in the future.

Some of the more important trends of recent years include the production of the bulky-knits, double-knit fabrics, carpet knitting, and the seemingly endless success of the women's seamless hosiery machines. More recently, a big surge in the lamination of knit fabrics of various weights and constructions to polyurethane foam is creating a greatly broadened horizon for these fabrics which give shape retention as well as warmth without weight at a very real cost advantage.

Installation of women's seamless hosiery machines continues unabated. Evidence of this important trend is currently shown in unusually high earnings of a major knitting machine manufacturer who states that this favorable situation is largely the result of continued concentration on women's seamless hosiery machines. Meanwhile, for the first time in history shipments of women's seamless hosiery by mills outstripped those of full-fashioned goods. It now seems evident that seamless goods will account for over 60% of women's hosiery shipments this year. Output of women's seamless hosiery came close to 34 million dozen pairs in 1960 which was about 53% of total shipments of women's hosiery. Barring a sudden change in preference, it is predicted that there will not be enough production to fill demand for women's seamless hosiery until a plateau of between 50 million and 54 million dozen pairs annually is reached. At an estimated increase of some 6 million dozen pairs a year, this levelling off will not be reached until 1963.

Advance reports indicate that a number of companies will introduce 4-feed women's seamless hosiery machines at the Knitting Arts Exhibition. Debut of such machines, which will greatly speed up production as compared to existing 2-feed machines, promises to be one of the noteworthy events of the knitting show.

Trends in the men's hosiery field find crew and athletic socks assuming an increasingly prominent position.

In outerwear, manufacturers of knit yard goods expect a sharp growth this year. It is predicted that the double jerseys and the laminates will account for the major portion of an anticipated increase in sales volume. Encouraging signs point to the entrance of certain large weaving mills into the knit outerwear field which is already resulting in new creative

thinking, a freshening in fabric development and a broader base of distribution.

New knitting machines for producing outerwear have been in constant development since the last Knitting Arts Exhibition two years ago and some manufacturers have timed this year's show for the introduction of important machines. Variety of fabric, increased speed with added yarn feeds typify the trend.

For example, a new pattern wrap machine is now available which combines the best features of woven goods with the added warmth and draping qualities found only in knitted fabrics. Patterns up, down and across in unlimited combinations of designs, colors and textures are possible. The heart of this machine is a patented superstructure which houses unique "wrap-around" elements for introducing effect yarns to groups of selected needles. The machine represents a radical departure from existing techniques for incorporating both "sculptured" or smooth design effects in jersey fabric. Indicative of outerwear trends is the fact that this machine will produce fabrics combining textured surface interest, patterning scope and multi-color schemes in an infinite variety of arrangements.

Expanded possibilities in the popular double jersey knitted yard goods for knit dresses are available. New machines have been introduced featuring higher rates of production. An important trend is the use of more feeds on such machines and 44 feeds are now offered on several yard goods knitters. One new machine uses interchangeable cams which can be modified to shift from knitting double pique and single pique yard goods to the manufacture of more conventional rib fabrics as well as interlock. New machines with jacquard patterning mechanisms offer unlimited pattern range in outerwear such as double pique, twill back, blister, rib, tuck, and two-three-four color welt back fabrics.

On these circular yard goods machines for making double-knit fabrics for dresses and suitings, the very fine gauges are making an impression. There is a movement to finer and lighter weights and even in the bulky knits some mills are now concentrating on medium bulkies instead of the jumbo bulkies as in previous seasons. Finer cut goods and flat knits in both pullover and cardigan styles are more extensive. It is noted that jacquard patterns are strong in fine through medium and heavy cut sweaters.

New developments continue to be found in the tricot and raschel knitting field. New tricot machines have been introduced incorporating single crank shaft drive as opposed to the conventional cam shaft drive. Width of tricot machines remain at 168"-170" and machine speeds continue at about the same as two years ago at around 950 courses per minute.

The laminates have inspired new thinking in tricot knitting. Many new end-uses are springing up with tricot fabrics being laminated to polyurethane foam.

Keen interest has been shown in the fairly recently developed circular knitting machines for making carpeting. One spring-needle machine now on the market can make a 12-ft. wide carpet on a 54" dia. machine and a 15-ft. wide carpet on a 70" dia. machine. This is an area of knitting which is bound to receive close attention in the years immediately ahead.

Of particular interest to throwsters and knitters because of improved package and yarn qualities are new developments in winding. A new large package ring twister has been introduced with a 12" traverse with completely new high-speed traverse motion. A new builder motion is said to provide superior package construction making for free delivery in the next operation. Smooth traverse motion at high speeds plus a new spindle and swing combination allow high spindle speeds with a 12" traverse bobbin.

Knitters have been showing particular interest in the entire area of winding as new developments take place designed to yield as near as perfect a package as possible to give trouble-free knitting. Improved winders have been introduced making the popular 6° cone for knitting machines. And knitters are watching the tremendous strides toward automation now taking place in the winding operation because

the possibility of further savings in cost are ever-present.

Machines for processing textured yarns have been steadily improved. For example, one such machine making yarn known as "false twist-fixed" will make its appearance at Atlantic City. It processes thermoplastic-type yarns continuously. The first stage makes a false twist type yarn, then it is modified in the second stage by influencing the linear speeds of the yarn in the second thermal treatment. In addition to knitters showing interest in the type of textured yarn that this machine can deliver, some of the major yarn producers have purchased this machine which is evidence of an important trend in the textured yarn field.

Another new development in knitting which has gathered increased momentum in recent years has been the adaptation of raschel machines for knitting lace. Development of 24 bar machines, with special mechanical devices for controlling patterns has increased greatly the production of raschel laces so that, measured in yardage produced, these laces are outstripping the older, more expensive leavers laces. And the improvements in the machines has meant that raschel laces are being produced that are finer and more delicate. Some authorities in the lace industry are betting that raschel laces will be made even better in the years ahead so that they will come close to equalling leavers laces in quality.

Scott & Williams

(Continued from Page 70)

represents a considerable achievement over earlier single-needle wrap units in which it was necessary to provide an individual wrap yarn for each needle. In view of the LPW feature wherein a single wrap yarn can be fed to a bank of needles simultaneously, it will be apparent that a relatively few wrap yarns are required to produce extremely novel design effects. Each wrap yarn on the Lombardi machine will have an individual stop-motion associated with it.

Conventionally, design effects in jersey fabrics, whether appearing on the technical face or back of the fabric, are produced by a method of coursewise patterning. The use of strippers in conjunction with pattern wheel needle selection to achieve this horizontal patterning is well-known in the trade. Many striking effects can be produced solely with the system.

Yet those familiar with the ins and outs of fabric structure and design acknowledge the limitations and shortcomings inherent in this system of horizontal patterning wherein it is necessary to carry the effect yarn throughout, even though its contribution to the design of the fabric is in only isolated portions. This imposes a considerable patterning restriction from the standpoint of bulk alone inasmuch as fabric weight is frequently directly proportional to the complexity of the pattern to be produced.

Furthermore, horizontal patterning is normally limited to 4-color work since 4-finger strippers are usually employed to produce these design effects—and with appreciable decrease in the number of productive feeds. Also, horizontal patterning restricts the use of expensive effect yarns since their indiscriminate use contributes appreciably to the weight and cost of fabric and makes their use prohibitive,

except in special applications. Finally, horizontal patterning, in view of the method by which effect yarns are carried throughout the fabric, detract from the pattern definition which the effect yarns are intended to produce.

The limitations inherent in the conventional system of coursewise patterning prompted the LPW wrap machine development. The LPW enhances the usual fabric design scope by providing a system of walewise patterning—sometimes called vertical striping—which can be actuated either to complement the conventional coursewise patterning or to operate independently of it. Both the horizontal and vertical patterning are selectively and, consequently, independently operative through normal chain means. Virtually unlimited design effects are obtainable with a minimum of effect yarns. Plaids of infinite variety, symmetrical as well as asymmetrical designs, continuous or isolated motifs, etc., all with textured or smooth surface effects and in a variety of color combinations, are said to be readily produced on the patented machine.

Wildman to Show 11 Machines

At the Knitting Arts Exhibition this month at Atlantic City, Wildman Jacquard will exhibit 11 knitting machines among which will be the firm's new PBP-44 "Challenger" Machine, a 30 inch diameter machine with 44 feeds, intended for high production rates on plain yard goods. The Challenger is a double circular jersey knitting machine with a revolving cylinder and dial. The machine is produced in cuts up to 20 x 20 needles per inch. It is equipped with long and short needles in both the cylinder and dial. The dial cam sections are made interchangeable and by rearrangement of the needles or dial cam sections a wide range of fabrics can be produced.

Modern Textiles Magazine

EXHIBITORS DIRECTORY

Knitting Arts Exhibition

Atlantic City April 24-28, 1961

ABERFOYLE MFG. CO. NEW YORK, N. Y.—(325)

EXHIBIT: Yarns and garments, knitted and woven, made of the following Aberfoyle yarns: Durene, Lislette, NyFoyle, Orion, Nylon, Dacron and cotton, natural, dyed and bleached yarns, Kodel and cotton, Zefran and linen, Orion Sayelle, worsted and zephyr yarns.

IN ATTENDANCE: A. S. Wilson, Jr., J. S. Kenrick, E. J. Neal, H. D. Whitener, Walter Humecky, Miss M. B. Reid, Miss F. S. Lippincott, R. A. Field, R. E. Broughton, R. F. Morris, K. Frederick, J. J. Neil, Wm. Napier, W. G. Vetterlein, J. P. Boger, David Gott, Robert Hasselle, R. Mishell, John Smith, E. Worth, Harry Whitin.

AINSLIE KNITTING MACHINE CO. BROOKLYN, N. Y.—(1003)

EXHIBIT: Their Brushing machine, double head border machine, string machine, and hand flat knitter.

IN ATTENDANCE: Leopold Broadwin, Sampson Broadwin, Alan Broadwin.

ALLIED CHEMICAL CO. NEW YORK, N. Y.—(219)

EXHIBIT: Progress in Caprolan nylon demonstrated in a variety of knitted end-products, incl. a new lustrous, modified cross-section, Trefoil knitting yarn.

IN ATTENDANCE: R. E. Mulcahy, R. E. Ellsworth, N. B. Bogosian, D. Holsenbach, W. Richardson.

AMERICAN ANILINE & EXTRACT CO., INC. PHILADELPHIA, PA.—(737)

EXHIBIT: Textile sizes, antistatic yarn lubricants, synthetic detergents, and finishing materials for the throwing, knitting, and weaving trades.

IN ATTENDANCE: Wm. J. Duddy, R. D. McCarty, M. H. Silberman, Lynn Kippax, James H. Jones, Eric K. Hellstrom, William Franks.

AMERICA'S TEXTILE REPORTER BOSTON, MASS.—(707)

AMERICAN CYANAMID NEW YORK, N. Y.—(751)

EXHIBIT: Emphasis will be placed on the exceptional dyeing properties of Creslan acrylic fiber; they will also display a range of hosiery, underwear and knitted outerwear made of Creslan.

IN ATTENDANCE: A. R. Loosli, W. H. Kieffer, M. B. Friedman, G. P. Vescio, J. N. McDonald, W. J. Bartlett, A. N. Foster, E. G. Walker, J. E. Ryan.

AMERICAN & EFIRD MILLS, INC. MOUNT HOLLY, N. C.

EXHIBIT: Sweaters, dresses and men's and women's sportswear of their yarns. These yarns include their Cotton Ice dyed mercurized yarn, combed and carded cotton, worsteds, outerwear blends, Ban-Lon and Antron.

IN ATTENDANCE: A. W. Bell, Frank Farnell, T. C. Smotherman, Robert Jensen, Sam Littlejohn.

AMERICAN ENKA CORP. NEW YORK, N. Y.—(86)

EXHIBIT: Hosiery made of Enka Nylon, including 15 den. stretch hosiery, 20 den. seamless sheer, combination panty-stockings, and support hosiery stockings; Ban-Lon half-hose and sport shirts of Enka Nylon and stretch foundations of Enka "Blanc de Blancs" Nylon; warp knit Enka Nylon fabrics in brushed and unbrushed doeskin and suede effects, incl. foam laminates.

IN ATTENDANCE: Dr. Frits Prakke, Boylan Carr, W. M. Pomeroy, Jr., S. W. Holmes, Jay Kaner, K. J. Martus, H. Z. Heuston, O. E. Hefzog, E. W. Martin, C. R. Hall, Don Campbell, Sid Smith, J. B. Steen, Jr., D. J. Godehn.

AMERICAN LAUNDRY MACHINERY INDUSTRIES CINCINNATI, OHIO—(930)

EXHIBIT: Their new Hydrex automatic washer-extractor; two-speed 42 x 54" Cascade washer with removable horizontal partition; their Monex extractor; and their thermatic drying tumbler.

IN ATTENDANCE: R. L. Gerling, R. S. Shaffer.

AMERICAN SAFETY TABLE CO., INC. READING, PA.—(801)

EXHIBIT: Their newly developed electronic needle-positioner-trimmer combination; flip stacker; L & L stacker; slide knife; heavy duty clamp truck; and Amco training unit.

IN ATTENDANCE: David Frankel, Harry C. Hunt, Robert Pettit, Malcolm Spinrad, Michael King, Kenneth Haas, Bryce Hoverter, Herman Lightman.

AMERICAN THREAD CO., INC. NEW YORK, N. Y.—(519)

EXHIBIT: Various items produced from their yarns and thread.

IN ATTENDANCE: E. B. Shaw, C. E. Browne, H. Horrocks, R. D. Hall, W. J. Fluegel, B. Lavery, R. J. Fontaine, F. R. Causey, R. A. Bliss, T. N. Madden, R. K. Howell, Jr., D. E. Howe, J. W. Kennedy, E. Roller, W. Pretty, M. Tuttle, R. Latawiec, W. B. Farrell, N. Blackledge.

AMERICAN VISCOSÉ CORP. PHILADELPHIA, PA.—(62)

EXHIBIT: Their new fibers Avron, Avril and Avlin; the important role of Avisco acetate yarns in the knitting industry, as well as their Integrity Tag Program will be stressed; in addition the display will feature industrial applications of rayon, the many uses of cellophane films, Tyrex rayon tire cord, and Avistrap cord strapping.

IN ATTENDANCE: George L. Storm, M. V. Macfarlan, Dr. C. J. Geyer, C. S. Brown, C. J. Mills, N. A. Cocke, S. H. Rose, R. F. Thayer, J. R. Durbin, J. P. Mervine, C. H. Scott, D. A. Davis, J. C. Folsom.

AMSCO PACKAGING MACHINERY, INC. LONG ISLAND CITY, N. Y.—(14)

EXHIBIT: Their packaging machines for polyethylene packaging of textile prod-

ucts; their automatic label applicators and bag sealing machines.

IN ATTENDANCE: Edwin E. Messmer, John Sylvester, John Keenan, Gene Cignoli, Edward Primosch, Edward H. Watson, Stephen R. Watson, Herbert K. Weber, Frank P. Czifra, John M. Kelly, George A. Wiedersheim.

ATKINSON, HASERICK & CO., INC. FRAMINGHAM, MASS.—(1009)

EXHIBIT: HacoBa high speed automatic winder and OMM rubber covering machine, covering any count rubber Spandex with any count fiber.

IN ATTENDANCE: J. L. Coon, N. J. MacDonald, Angelo Menagatto and Joseph Cassucci.

ATWATER THROWING CO. PLYMOUTH, PA.—(627)

EXHIBIT: Textured synthetic continuous-filament yarns processed by Textralized, Flufilon, Helanca, Taslan, and Agilon methods; knitted garments and fabrics made of such yarns; also thrown filament yarns; nylon sewing and seaming threads; textured and thrown yarns displayed on warp spools for Raschel and tricot knitting; new products featured: Ban-Lon, Antron and Cadon yarns, garments and fabrics in outerwear and underwear; "WL" textured yarns in heather blends; #A-4CS thread for seaming of hosiery closures; and Ban-Lon tricot fabrics.

IN ATTENDANCE: E. J. Schellenberg, Jr., R. P. Schellenberg, S. D. Counterman, C. Jones, W. O'Neill, and sales agents.

BANCROFT & SONS CO., JOSEPH WILMINGTON, DEL.—(115)

EXHIBIT: Display to show the wide range of the Ban-Lon program—research, quality control, patent protection, marketing and advertising; fabrics and garments approved to carry the Ban-Lon quality trademark.

IN ATTENDANCE: L. W. Rainard, E. H. Shattuck, F. A. Cooper, R. A. Pici, E. P. Mersereau, J. M. Huling, D. A. Graham, W. M. Teta, H. L. Johnson, J. D. Bradley, A. A. Benedek, C. E. Vollmar, W. A. Geiler, A. L. Trifunovic.

BARBER-COLMAN CO. ROCKFORD, ILL.—(31)

EXHIBIT: 20-spindle type "FF" automatic spooler; also spooler winding 6" cones for knitting machine.

IN ATTENDANCE: H. C. Schleicher, F. D. Taylor, W. F. Turner.

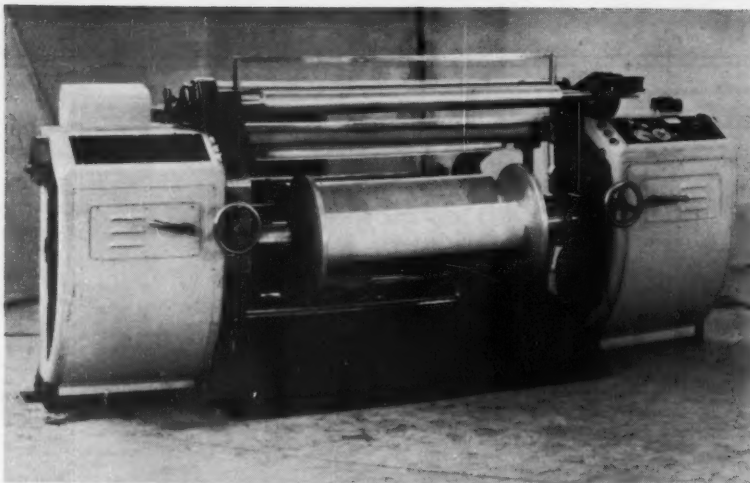
BELLMANN GmbH, EUGEN HAGEN-HASPE, W. GERMANY—(851)

EXHIBIT: Their Dyeborder Colorplast Type Senior which automatically finishes hosiery by scouring, dyeing, setting, finishing and drying.

IN ATTENDANCE: Mr. Friedmann of Kallo Universal, Reading, Pa.

BENTLEY KNITTING MACHINERY ORGANIZATION, INC. PROVIDENCE, R. I.—(347)

EXHIBIT: Large number of their knitting machine models including machines for



Model SB-42 Warper shown by Cocker Machine & Foundry Co.

producing ribknit hosiery, women's seamless hosiery knitters equipped with their Kleeer-knit mechanism and their positive fabric takedown device; circular outerwear and continuous fabric knitters; the Bentley-Cotton fully automatic Model UO/AE for full-fashioned hosiery; a new model underwear knitter; also a new type skein dyeing machine.

IN ATTENDANCE: Alfred L. Hutton, Jr., and staff of technicians.

BRANT YARNS, INC.
NEW YORK, N. Y.—(108)

EXHIBIT: Softee, a super-fine plied cotton yarn for bulky fabrics, and Pedigree, a slow carded dyed cotton yarn for jersey fabrics, both produced by Adelaide Mills; Helanca stretch yarns, SW textured yarn for sweaters, and Vision-Ora, a fine textured nylon yarn for fine knitwear, all by Belmont Throwing Corp.

IN ATTENDANCE: Irving Brant and William Barest for Brant, Samuel E. Carr and Michael Votta for Belmont, and T. P. Roberts for Adelaide.

BURLINGTON ENGINEERING SALES CO.
GRAHAM, N. C.—(1018)

CANNON MILLS, INC.
NEW YORK, N. Y.—(201)

EXHIBIT: Carded and combed natural and dyed cotton yarns and heather blends.

IN ATTENDANCE: W. C. Cannon, D. A. Long, R. L. Holbrook, T. R. Smith, Dolan Frye, John Morrow, Roy Dellinger, J. C. Williams, J. W. Turner, J. C. Bartlett, F. A. Dusch, Jr., J. F. Russell, C. V. Albright, Henry Crumbliss.

CARBERT MFG. CO., INC.
CAMBRIDGE, MASS.—(20)

EXHIBIT: Their new M40 automatic poly bag loader working in combination with Model 1010 bag sealer; imprinting labeler with conveyor and coding attachment; also products handled on their machines.

IN ATTENDANCE: R. W. Saumsiegle, R. L. Hewson, R. Wing, C. Foy.

CARON SPINNING CO.
ROCHELLE, ILL.—(514)

EXHIBIT: Worsted, synthetic and blend type yarns, also knit fabrics.

IN ATTENDANCE: O. J. Caron, John Caron, W. H. Stocking, A. J. Amatruda, R. J. Caron, R. B. Judge, B. J. Zintak, Jr.

CARR FASTENER CO.
CAMBRIDGE, MASS.—(1026)

EXHIBIT: Snap fasteners of all types and fastener attaching equipment.

IN ATTENDANCE: E. N. Hvoslef, W. W. Hendrix, Peter Reggio, Arthur Pike.

CELANESE FIBERS CO.
NEW YORK, N. Y.—(70)

EXHIBIT: Fabric display demonstrating the versatility of Celanese yarns that are available to their customers.

IN ATTENDANCE: Hamilton Macauley, George Hein, William O'Neil, Robert Grovet, John Gross.

CHANDLER MACHINE CO.
AYER, MASS.—(811)

EXHIBIT: New type permanent pleating machine, as well as button sewing equipment, and power and hand operated sample cutting-pinking machine.

IN ATTENDANCE: R. C. Maxant, A. A. Maxant, R. Shields.

CHEMSTRAND CORP., THE
NEW YORK, N. Y.—(921)

EXHIBIT: News about single bath dyeing of Acrilan and Acrilan 16; double-knit Jersey of 100% Acrilan; Acrilan in brushed knits, sculptured and multi-color effects with Acrilan; Acrilan-Spectran, their solution-dyed fiber, Acrilan and Acrilan 16 in sweaters; their "A" Acrilan trademark program; textured nylon yarns; laminated fabrics with Acrilan and Chemstrand nylon; Cadon nylon multilobal yarns; information on their technical sales service, merchandising, advertising, promotion and product publicity.

IN ATTENDANCE: E. A. O'Neal, Jr., W. G. Luttge, B. F. Bertland, Joseph Tucker, Harry Cramer, C. C. Madeira, E. T. Powers, P. W. Runge, Robert E. Smith, M. R. Dalton, Barry Emmert, R. M. Seibert, M. J. Koroskys, C. W. Gayler, J. Fred Murray, Ivan Bollinger, C. G. Flynn, A. R. Schlesinger, Noel Fawcett, Jerome Edleman, Other members of the Merchandising, Promotion, Advertising & Research & Sales Departments.

C.I.T. CORPORATION
NEW YORK, N. Y.—(945)

As factors, they have details of long-term financing programs and other financial matters available.

IN ATTENDANCE: E. T. Neville, D. V. McCarthy, D. N. Arnold, J. C. Reece, Clem N. Howe, Walter Schilling, George Allis.

COCKER MACHINE & FOUNDRY CO.
GASTONIA, N. C.—(47)

EXHIBIT: Model SB-42 warper, accumulator rolls, and sample creels.

IN ATTENDANCE: J. C. Bodansky, T. Frank Sugge, O. L. Davis, F. H. Cunningham, Jr., J. A. McCoig, James Schrum.

COLLINS & AIKMAN CORP.
NEW YORK, N. Y.—(28)

COMER-AYONDALE MILLS
SYLACAUGA, ALA.—(333)

EXHIBIT: Yarns.

IN ATTENDANCE: W. R. Austin, Archie Clark, George Clark, Charles Crowther, Bruce Weber, J. E. Bush, Winston Hardegree, S. E. Fulton, R. E. Fulton, E. J. Ballou, L. B. Allen, P. R. Branton, C. W. Bailey, H. S. Morrow, I. C. Schumacher, Jim Edge, Graham Byrum.

COMPRESSOR CORP. OF AMERICA
GREENVILLE, S. C.—(1023)

COTTON YARNS, INC.
NEW YORK, N. Y.—(126)

EXHIBIT: With Texite, Inc. and Botany Cottons, Inc., they will show cotton yarns, sewing thread, carded cotton yarns, laminated knits, knitted fabrics, and combed and mercerized cotton yarns.

IN ATTENDANCE: R. J. Gurney, C. A. Ross, E. A. Kushner, N. R. Kaufman, M. Reibel, Ira Goldenberg, Harvey Bernstein.

COURTAULDS (ALABAMA) INC.
NEW YORK, N. Y.—(1004)

EXHIBIT: New end uses for their fiber, specifically Corval Cross-linked rayon and Coloray solution dyed rayon in knit goods.

IN ATTENDANCE: Homer Carter, Jr., George Stanley, T. Ethridge, George Grant, Earl Stewart, C. Radcliffe, Carl Webber.

CRAWFORD CO., INC., H. E.
KERNERSVILLE, N. C.—(74)

EXHIBIT: Their completely new CMP/1 (Crawford Multi-Pattern) hosiery machines; new model Somerset thread clipping-turning-inspecting machine; also complete line of hosiery machine replacement parts.

IN ATTENDANCE: H. E. Crawford, H. E. Crawford, Jr., T. A. Fulton, R. D. Johnson, D. A. Smith, Milford Smith.

CROSS COTTON MILLS CO.
MARION, N. C.—(712)

EXHIBIT: Reception booth only.

IN ATTENDANCE: Eugene Cross, Jr., Eugene Cross, III, O. R. Cross, Louis Williams.

CUMMINGS-LANDAU LAUNDRY
MACHINERY CO., INC.
BROOKLYN, N. Y.—(304)

EXHIBIT: Stainless steel washers and extractors; steam-heated reversing drying tumbler; washer-extractor.

IN ATTENDANCE: Eugene Cummings, David Green.

CUTTING ROOM APPLIANCES CORP.
NEW YORK, N. Y.—(419)

EXHIBIT: Cloth laying machines, cutting tables, thread trimmers, showing for the first time their Champion model "W", a tensionless cloth spreading machine.

IN ATTENDANCE: Bert Gottschalk, H. Bard, Bernard Korn, Al Greene, J. E. Fox, A. I. Fransky, Aaron Maimlin.

DAILY NEWS RECORD
NEW YORK, N. Y.—(931)

DAVISON PUBLISHING CO.
RIDGEWOOD, N. J.—(939)

DENNISON MFG. CO.
FRAMINGHAM, MASS.—(511)

EXHIBIT: Their fiber content model B dial-set machine; booklet pinning machine; and wired tag feed model D dial-set machine.

DIXIE MERCERIZING CO.
CHATTANOOGA, TENN.—(501)

EXHIBIT: Cotton yarns, dyed Turbo yarns, Creslan and Creslan blends; products made from these yarns; Spring 1962 colors; staple spun Orlon.

IN ATTENDANCE: Walter Logan, Fred Frank, E. R. Kimball, W. C. Henderson, Preston Daiglish, J. Blackwood Cameron, William A. Eipper, Richard Sussman, Irving Sussman, Robert Voigt, George Veness, George Bryan, Wilber D. Evans, Mark Munsill, Lee Hill, Alexander Cameron, W. H. Michael, George Porges.

DOUGHBOY INDUSTRIES
NEW RICHMOND, WIS.—(1008)

DUBIED MACHINERY CO.
LONG ISLAND CITY, N. Y.—(327)

EXHIBIT: The "Wevenit" model A.24 circular yard goods fine rib jacquard knitting machine; Type DLA fully automatic power flat knitting machine; Type NHF.2 hand flat machine with Type M.21 power attachment.

IN ATTENDANCE: J. G. Sandri, R. Singer, E. Hafner, E. G. Hooton.

DU PONT DE NEMOURS & CO., INC.
WILMINGTON, DEL.—(301)

EXHIBIT: Hosiery, sweaters, flat knits and circular knits made of their various fibers, incl. Orlon Sayelle, Lycra, their newest fiber, and Antron nylon.
IN ATTENDANCE: Marketing and technical service representatives.

EASTMAN CHEMICAL PRODUCTS, INC.
NEW YORK, N. Y.—(847)

EASTERN YARN MILLS, INC.
NEW YORK, N. Y.—(136)

EBERLY, INC., JOHN A.
READING, PA.—(418)

EXHIBIT: Arrow latch needles, sinkers, jacks, sliders, and precision stampings; also complete line of tools for knitters, weavers and machine operators.
IN ATTENDANCE: Victor L. Eshelman, G. MacFadyen, Albert L. Eshelman, Douglas H. Johns.

EMSIG MFG. CO.
NEW YORK, N. Y.—(629)

ERRICH INTERNATIONAL CORP.
NEW YORK, N. Y.—(206)

EXHIBIT: Various models of their bag sealers and packagers.
IN ATTENDANCE: Henry W. Gore, Manuel L. Ruderman.

ETHERINGTON BROTHERS, INC.
PHILADELPHIA, PA.—(314)

EXHIBIT: They are sales representatives for Swift Spinning Mills, Rowan Cotton Mills, Aberfoyle Mfg. Co., Leon-Ferenbach, Inc., and Bleazard Yarn Mills, Co. Space to be used as reception booth.
IN ATTENDANCE: B. H. Etherington, F. H. Etherington, J. P. Daly, J. R. Crawford, R. T. Davis.

EWING-THOMAS CORP.
CHESTER, PA.—(201)

EXHIBIT: See Cannon Mills.
IN ATTENDANCE: J. L. Rankin, J. W. Jester, G. W. Fiss, R. E. Rankin, David Thomas, J. F. Meschter, G. E. White.

FABRIONICS CORP.
HUNTINGTON, N. Y.—(112)

EXHIBIT: Their warp yarn monitor, standards gage, Una-Mag, and Watchman.
IN ATTENDANCE: Vincent E. Lynch, Olen Marks, Karl Lendt.

FAIGENBAUM, ROY D.
PHILADELPHIA, PA.—(769)

EXHIBIT: Tension devices: industrial ceramics; sinkers, transfer jacks, etc.; and twin feed and chevron mesh attachments.
IN ATTENDANCE: Roy D. Faigenbaum, A. Benson Davis.

FANCOURT CO., W. F.
PHILADELPHIA, PA.—(606)

EXHIBIT: Scale model of their new plant, also materials finished with Fancourt products.
IN ATTENDANCE: John L. Fancourt, Frederick T. Broadhurst, Thomas Lindley, Donald Loeber, John McFarlane, Robert Rhodes, Willard Sawyer, Claude Wolff.

FEUSTEL, INC., ERNEST A.
NASHVILLE, TENN.—(107)

EXHIBIT: Carriers and tubes for full-fashioned machines, featuring their Dura Safety Tubes; Saxonia flat parts for seamless and full-fashioned machines; Redditch hosiery latch needles.
IN ATTENDANCE: Frank C. Feustel, J. K. Blackwell, David King, Hubert Hurley, Lewis T. Ballard, Carl McAnally.

FIRSCHING & SON, INC., J. A.
UTICA, N. Y.—(840)

EXHIBIT: Cutting and winding machines for bias and straight bindings, also cloth lay-up machines.
IN ATTENDANCE: R. A. Firsching.

FLETCHER WORKS, INC.
PHILADELPHIA, PA.—(601)

FOSTER MACHINE CO.
WESTFIELD, MASS.—(43)

EXHIBIT: Model 506, Lindly Yarn Inspector and Electrotense tensions.
IN ATTENDANCE: E. C. Connor, P. H. Farmer, J. W. M. Lozier, E. H. Ely, J. B. Davenport, R. B. Kendall, F. F. Stange, C. A. Faunce, E. P. Dodge, G. W. Mallory.

FOUQUET-WERK FRAUZ & PLANK
WEST GERMANY—(661)

FRANKLIN PROCESS CO.
PHILADELPHIA, PA.—(741)

EXHIBIT: Package dyed "Colorbred" yarns for the knitting industry.
IN ATTENDANCE: Earl Rushon, R. B. Lusignea, R. F. Strahley, W. A. Traver, Jr., C. W. Dawson, J. G. Edwards, R. S. Allen, S. W. Cable, Byron Drummond, Douglas Grant, H. B. Hall, Leonard Grindrod, J. R. Garner, E. T. Wrenn, Edward Ingle, R. C. McCarthy, Edward Connell.

GARMENT FINISHING EQUIPMENT CORP.
CAMBRIDGE, MASS.—(832)

EXHIBIT: Improved model of their Paris steam-air sweater finisher.
IN ATTENDANCE: Felix Renick, Richard S. Dickie, Kenneth G. Dunn.

GASTON COUNTY DYEING MACHINE CO.

STANLEY, N. C.—(647)
EXHIBIT: Completely new dyeing machine for woven and knit fabrics.
IN ATTENDANCE: G. H. Hacker, R. P. Craig, Gordon Hacker, Walter Newcomb, Albert March, J. R. Angel, A. M. Rhyne, H. Y. Craig.

GENERAL FOAM CORP.
NEW YORK, N. Y.—(667)

EXHIBIT: Urethane foams suitable for use as laminates to knit fabrics.
IN ATTENDANCE: Werner H. Norman, Stanley Herschman, Herbert Zeller, Henry J. Wertheimer.

GINSBERG MACHINE CO., INC.
NEW YORK, N. Y.—(141)

EXHIBIT: Their entire Trim-Master line for hosiery, underwear and outerwear; double tape sewer; steam shirt folder; Cut-A-Part device and stacker; and automatic chain cutters.
IN ATTENDANCE: Si Margolis, Harold Stout, Howard Ginsbert, Larry Gruber, Charlie Gerstein.

GLOBE DYE WORKS CO.
PHILADELPHIA, PA.—(806)

EXHIBIT: Package dyed Sayelle, Arnel, cottons, worsteds, blends.
IN ATTENDANCE: T. S. Greenwood, William B. Taylor, Richard W. Foltz, Albert E. Stutzke.

GROSS EMBROIDERY AUTOMAT, INC., ERICK
BERGENFIELD, N. J.—(263)

EXHIBIT: Their embroidery automat Model 1010.
IN ATTENDANCE: Charles Gross, Raymond Gross, Stanley Semco.

HARDING, INC., H. C.
PHILADELPHIA, PA.

HARRIET-HENDERSON COTTON MILLS
HENDERSON, N. C.—(607)

Reception booth only.
IN ATTENDANCE: M. Y. Cooper, A. B. Hammond, T. H. Crudup, D. F. Swain, A. G. Sewell, P. H. Daiglish, Marcus Munsill, W. C. Brown, D. O. Blevins.

HAYES INDUSTRIES, INC.
JACKSON, MICH.—(4)

EXHIBIT: 14", 21" and 30" tricot spools for the various fibers.
IN ATTENDANCE: Richard D. Richards, Warren D. Sharp, John E. Prins, J. Paul Laird.

HEANY INDUSTRIAL CERAMIC CORP.
NEW HAVEN, CONN.—(669)

EXHIBIT: Heanium thread guides and tension devices.
IN ATTENDANCE: A. O. Pieper, R. L. Carroll, H. Boverl, R. P. Bennett.

HENRICI LAUNDRY MACHINERY CO.
BOSTON, MASS.—(809)

EXHIBIT: Their knitwear stainless steel washing machine and knitwear drying tumbler.
IN ATTENDANCE: Henry W. Maxant.

HERR MANUFACTURING CO., INC.
BUFFALO, N. Y.—(363)

EXHIBIT: Complete line of their type "M" conical rings and holders; also flyers for all types of yarns for up twisting.
IN ATTENDANCE: Hyatt B. Atwood, Robert M. Leach, William W. Woodard, James McLean, William K. Anderson, Jr.

HIGHLAND COTTON MILLS, INC.
HIGH POINT, N. C.—(113)

EXHIBIT: Reception booth only.
IN ATTENDANCE: H. F. Hunsucker, N. M. Ayers, W. H. Clonin, W. Kane, J. M. McGinness, Henry Stokes, Leon Safrit.

HOFMANN NEEDLE WORKS, INC., ALFRED
UNION CITY, N. J.—(633)

EXHIBIT: Latch and spring beard knitting needles.
IN ATTENDANCE: Hanns L. Wirth, George Veness, George Graves, Bruce Lauderbach, Ken Lingley.

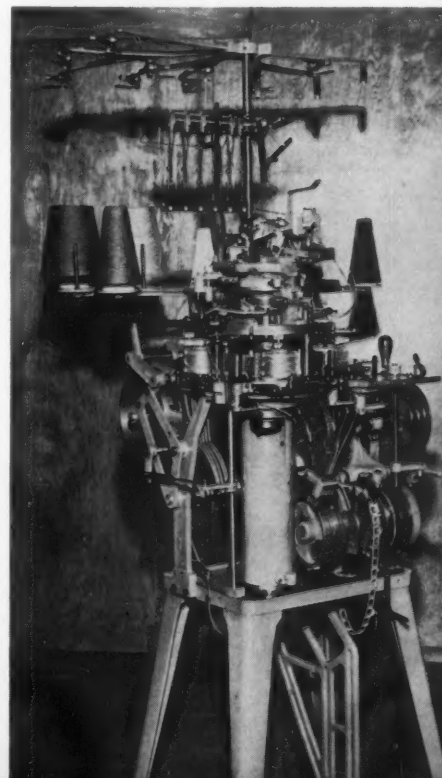
HOSIERY & UNDERWEAR REVIEW AND LINGERIE MERCHANDISING
NEW YORK, N. Y.—(114)

HUDSON AUTOMATIC MACHINE & TOOL CO.
UNION CITY, N. J.—(465)

EXHIBIT: Various models of their Projection projectors and testing instruments.
IN ATTENDANCE: C. A. Hepp, H. Peter.

HYDRO-SET MANUFACTURING CO.
MONTGOMERYVILLE, PA.—(3)

EXHIBIT: Photos and literature on their new automatic dyeing and boarding machine for ladies' stockings; also samples of stockings processed on this machine.



Crawford's new CMP/1
Hosiery Machine

IN ATTENDANCE: Grant H. Brewin, William C. Koehler, William Cecil, Benjamin C. Hall, George Stocker, Harvey Rosenberger.

**INDIAN ORCHARD FINISHING CO.
INDIAN ORCHARD, MASS.—(812)**

EXHIBIT: Display of mill operations in both piece dyed and yarn dyed circular knitted fabrics.

IN ATTENDANCE: Abe Young, Allen Leibowitz and Allen Kneeland.

**INDUSTRIAL DRYER CORP.
STAMFORD, CONN.—(132)**

EXHIBIT: Their automatic "H-W" conditioner for twist setting, lofting and regain.

IN ATTENDANCE: R. G. Leininger, F. W. Caesar, P. H. Friend, J. R. Tutt.

**INTERNATIONAL SILK ASSOCIATION
INC.**

NEW YORK, N. Y.—(57)

EXHIBIT: Silk material and dresses.

IN ATTENDANCE: Walter Strassburger, George Elbogen, Hans Vaterlaus, Miss Ree de Veaux, Aubrey Kelly, S. Doh, K. Kumon, M. Machida, M. Yamakawa.

**INTERNATIONAL TEXTILE MACHINE
CO.**

CHARLOTTE, N. C.—(819)

EXHIBIT: Autoboard automatic hosiery (socks) boarding machines; inspectomatic, automatic inspecting machine for hosiery; Patromatic, electronic pairing computer for hosiery; and specialty transfer machines for hosiery.

IN ATTENDANCE: John W. Glaze, Jr., Ernest E. Abernethy, Jr.

**IVES CO., INC., THE LOYAL T.
NEW BRUNSWICK, N. J.—(841)**

EXHIBIT: Spring beard knitting machine needles, sinkers, jacks, sliders, points and other sheet metal knitting machine parts.

In the adjoining booth 837 their newly acquired Division, The Crawford Mfg. Co., will display multiple feed knitting machinery with the Crawford stop motion attachments.

IN ATTENDANCE: Theodore Whitlock, Jr., Theodore Whitlock, Sen., George Oerndunk.

**JET AGE KNITWEAR MACHINERY CO.
BROOKLYN, N. Y.—(225)**

EXHIBIT: Four completely new models of Philip knitting machinery; Weiffenbach fully automatic, double lock, flat power machine.

IN ATTENDANCE: Morris Kaplan, Philip Belaieff.

**JOHNSTON MILLS CO.
CHARLOTTE, N. C.—(706)**

EXHIBIT: Samples of combed, carded and Durene yarns, in both natural and dyed.

IN ATTENDANCE: D. R. Johnston, D. R. Jonas, E. E. Jones, Jr., R. M. Bechtel, F. N. Belk, H. M. Byrne, W. J. Crummer, Philip Gesoff, E. M. Peacock, A. R. Newcombe, Jr., W. B. Phelps, Jr., W. J. Yates.

**JORDAN MILLS, INC.
COLUMBUS, GA.—(613)**

EXHIBIT: Knitted fabrics made from dyed yarns spun by Jordan Mills, cotton-cotton blends, synthetics and blends.

IN ATTENDANCE: R. Curtis Jordan, Jr., W. A. Livingston, and salesmen.

**KEMFAST TEXTILES, INC.
NEW YORK, N. Y.—(610)**

EXHIBIT: Package dyed Orlon and Sayelle garments and yarns of all descriptions; knitted dresses made of package dyed wools in the new double knit fabrics.

IN ATTENDANCE: Cy Girard, Herbert Girard, Murray Catin.

**KEYSTONE DYEING CO.
PHILADELPHIA, PA.—(1019)**

**KIDDE TEXTILE MACHINERY CORP.
BLOOMFIELD, N. J.—(39)**

**KIMBALL CO., A.
BROOKLYN, N. Y.—(313)**

EXHIBIT: Line of informative pricing labeling systems; data processing systems for automatic inventory control; also various models of their equipment.

IN ATTENDANCE: A. D. Bennett, J. Kremer, R. Murray, D. O'Brien, D. Leff, T. Brosnan, G. Schanlan, M. O'Donnell, W. Hopley.

**KIRSTEN, INC., OLAF R.
LONG ISLAND CITY, N. Y.—(1027)**

EXHIBIT: Cutting dies for the knitting and clothing industries.

IN ATTENDANCE: Olaf R. Kirsten, Sen.

**KLAUDER WELDON GILES MACHINE
CO.
PHILADELPHIA, PA.—(947)**

EXHIBIT: 200 lb. KWG-Duo-Flo circulating type skein dyeing machine; 100 lb. paddle wheel dyeing machine; yarn carrier truck; and dyehouse truck.

IN ATTENDANCE: Thomas Bell, Robert Bell, John Rascher.

**JOHN KLEIN & CO.
NEW YORK, N. Y.—(755)**

EXHIBIT: Two models of the Santoni single feed high speed circular knitting machine; a Santoni double feed circular knitting machine.

IN ATTENDANCE: John Klein, S. Szulc, Santoni, E. Baldan.

**JOSEPH KLUMPP CO.
PHILADELPHIA, PA.—(414)**

EXHIBIT: Various types of yarns to be displayed.

IN ATTENDANCE: J. J. Klumpp, G. L. Vonder, Wallace Gill, Jr., Carl H. Beitel, Erwin M. Aptaker, Philip Nathanson, John Tenwolde.

**KNITROL, DIVISION OF USTER CORP.
CHARLOTTE, N. C.—(1029)**

EXHIBIT: Their Model 1-C Clipper; BACAM Clippers; Gordon trimmer for ladies' seamless hosiery, which trims lap ends automatically at every yarn change at the knitting machine and automatically removes the trimmed waste.

IN ATTENDANCE: C. Venoy Boliek, Paul Zobrist.

**THE KNITTER
CHARLOTTE, N. C.—(1)**

**KNITTING INDUSTRY WEEKLY
NEW YORK, N. Y.—(210)**

**KNITTING MACHINE & SUPPLY CO.
UNION CITY, N. J.—(315)**

**KNITTING MILL NEWS
PHILADELPHIA, PA.—(22)**

**JOSEPH KOPELOWITZ, INC.
BROOKLYN, N. Y.**

EXHIBIT: Two new flat knitting machines, made by Mestre of Spain, and shown for the first time in this country.

IN ATTENDANCE: Lefty Kopelowitz, Joseph Kopelowitz, Jo Van der Linden.

**KULICKE & SOFFA
PHILADELPHIA, PA.—(155)**

**LACONIA COOPER SALES CORP.
LACONIA, NEW HAMPSHIRE—(732)**

**LAMB KNITTING MACHINE CORP.
CHICOPEE FALLS, MASS.—(934)**

EXHIBIT: Their redesigned model 105 double head knitting machine for knitting four individual trims.

IN ATTENDANCE: John Giokas, John Heitman.

**LASSITER CORP.
NEW YORK, N. Y.—(619)**

EXHIBIT: Samples of hosiery and softgoods packaging in all basic packaging materials; also on display will be several award-winning softgoods packages.

IN ATTENDANCE: J. Hanes Lassiter, John V. Shea, W. B. Wine, R. W. Plover, W. B. Gardner.

**LATTA, CURRIER CO., INC.
NEW YORK, N. Y.—(66)**

EXHIBIT: As yarn mill representatives they will display yarns and products made by the various spinning mills they represent in the knitting field.

IN ATTENDANCE: Albert W. Latta, Jr., Arthur M. Currier, William F. Durkin, Frank W. Sundberg, Ray W. Williams, Sven L. Nordin, Dan S. LaFar, William Manning Mallory, Shiah M. Arsham, M. Fred Thoma, Edwin J. Lyman, Mr. A. Gordon Adams, Elwood W. Munz, John A. Moore, R. C. Swan.

**LAUREL SOAP MFG. CO., INC.
PHILADELPHIA, PA.—(713)**

EXHIBIT: Line of soaps, oils and finishes for the knitting trade, featuring their Metrosol RX and Catamine SF for washing wool and Orion sweaters and Polylube FFN, a new, improved finish for nylon and Dacron warp-knit and resin finished fabrics.

IN ATTENDANCE: Clarence E. Bertolet, W. H. Bertolet, Jr., A. Henry Gaede, W. H. Bertolet, III, Albert H. Rant, J. Paul McGinty, Fowler Jackson, Joseph J. Murphy, Philip B. Hudson.

**LEATEX CHEMICAL CO.
PHILADELPHIA, PA.—(100)**

EXHIBIT: Chemical processing assistants for knitting, bleaching, scouring dyeing and finishing of knitted textiles.

IN ATTENDANCE: Maurice M. Guertin, L. Kevin McChesney, Troy F. Robbins, Joseph A. Clark, Harry Buckley, Samuel F. Rieder, John McChesney, Jr.

**PERCY A. LEGGE COMPANY
NEW YORK, N. Y.—(651)**

EXHIBIT: Space to be used as a reception booth with a backboard display of products manufactured by the firms they represent.

IN ATTENDANCE: C. H. Vanderbeck, Henry C. Legge, Richard S. Rosenfeld, Oliver L. McCurdy, A. Rex James, Webster Smith, Neil MacLellan, T. W. Adams.

**LEON-FERENBACH, INC.
NEW YORK, N. Y.—(957)**

EXHIBIT: Filament yarns processed by them, also products knitted and woven from these yarns; new products featured include textured filament yarns for knitting and items made from these yarns; stretch yarns for weaving and fabrics made from them; looping, margin and separating threads; Taslan yarns of all descriptions.

IN ATTENDANCE: Carl Ferenbach, John C. Ferenbach, Richard S. Ferenbach, William T. Swoyer, Jr., Robert D. Taylor, Robert L. Wise, Edmond A. Ambrogi, Howard D. Godfrey, David J. Gott, Wm. Griffin, Robert J. Mebane, Charles W. Wolcott.

**LEESONA CORP.
PROVIDENCE, RHODE ISLAND—(547)**

EXHIBIT: Their new large package ring twister N. 512, featuring a new high speed traverse motion and a 12" traverse; also on display will be new textured yarn fabrics and yarn packages.

IN ATTENDANCE: F. P. Barrie, F. J. Barrows, J. Bowler, J. R. Breen, L. E. French, K. H. Gibson, H. D. Kernan, R. Leeson, R. P. Newell, E. C. Parish, R. S. Pennock, H. H. Richardson, C. E. Sullivan, R. H. Wallach, J. J. White.

**LIBERTY THROWING CO., INC.
KINGSTON, PA.—(728)**

EXHIBIT: They will show a number of newly developed yarns and threads and fabrics and garments made from these.

IN ATTENDANCE: Charles M. Epstein, Jr., George M. Poillon, John D. Sicher, Edward J. Chernesky, David E. Smith.

**LIDZ BROTHERS, INC.
NEW YORK, NEW YORK—(831)**

EXHIBIT: All styles and types of buttons (especially polyester, metal and metalized buttons) that are applicable to the knitwear trade.

IN ATTENDANCE: Murray Cohen, Edward Lidz, Al Sjursen, Peter DeAngelis.

LIEBERS & CO.

INGOLSTADT, WEST GERMANY—(1021)

EXHIBIT: Flat stock for all types of knitting machines, including sinkers and split dividers, jacks and K. O. bits for full fashioned hosiery machines; stock for circular machines producing seamless hose; also for Komet, Wildman and Supreme machines.
IN ATTENDANCE: Peter Liebers, Gerhard Fischer, H. W. Fricke.

MARKEM MACHINE CO.

KEENE, N. H.—(628)

EXHIBIT: Their new Model 152A automatic hosiery box marker; Model 126C label printer; Model 45A box printer; and Model 32AD piecework ticket printer.
IN ATTENDANCE: Leon Graves, Thomas H. Huggins, Charles H. Cheseman, Harris Clark, Charles Zahos.

MARLEY DISTRIBUTING CO., INC.,

STANFORD

NEW YORK, N. Y.—(164)

EXHIBIT: Their new reversible Mend More pull thread mending machine and new Push Button mending iron; also other models and types of mending equipment for hosiery, socks and sweaters.
IN ATTENDANCE: Stanford Marley, Mary Marley.

MARVEL SPECIALTY CO.

PADUCAH, KENTUCKY—(308)

EXHIBIT: Their mending machine with iron attachment; Marvel-Meter; Marvel-StaX; AISI-Mag ceramic throat plates for Fidelity and Scott & Williams 400 needle machines; and Olcott hosiery carrying trays.
IN ATTENDANCE: Grayson Harralson, Gus T. Smith, Lew Ballard, Hubert Hurley, Carl McAnally.

MASON SILK CO.

NEW YORK, N. Y.—(1028)

EXHIBIT: Samples of their various products, including their new nylon and Dacron Stitchlok sewing threads; conventional nylon and Dacron sewing thread; nylon quilting thread and bobbins; and nylon and Dacron industrial threads.
IN ATTENDANCE: H. Eugene Mason, C. Frederick Buzzard, William H. Chase, Jr., John M. Miedwig.

MAYER TEXTILE MACHINE CORP.

CLIFTON, N. J.—(747)

EXHIBIT: Their super-rapid K-2 tricot machine; their Super Garant rubber raschel knitter; and their tricot warper.
IN ATTENDANCE: Nat Brody, Helmut Nittman.

MEHL MANUFACTURING CO.

CINCINNATI, OHIO—(910)

MERROW MACHINE CO.

HARTFORD, CONN.—(135)

EXHIBIT: Their new model overstretch machines for underwear, outerwear and hosiery applications.
IN ATTENDANCE: Jack Washburn, W. M. Baker, domestic distributors, number of representatives from abroad.

MEYERS & CO., CLARENCE L.

PHILADELPHIA, PA.—(533)

EXHIBIT: Articles made from Antron and Cadon nylon Mylast for outerwear and woven fabrics; new developments by Burlington Throwing in Helanca stretch nylon for knitting and weaving; knitted outerwear fabrics and hosiery made of nylon and Dacron texturized Mylast yarns.
IN ATTENDANCE: C. L. Meyers, M. M. Meyers, J. A. Meyers, G. E. Meyers, E. N. Myers, D. J. Strauss, C. E. Bender, E. W. Fowler, Gerald Kaplan, F. L. Knight, Louis Escheibach, R. J. Walsh.

MILTON MACHINE WORKS

MILTON, PA.—(735)

EXHIBIT: Aluminum alloy tricot and raschel beams equipped with 13 $\frac{3}{4}$ ", 21", and 30" diameter forged heads; aluminum alloy selvage spools and other related products.
IN ATTENDANCE: J. Stanley Billig, John B. McMurtrie, H. I. Shultz, Jr.



LIBA 2-Bar Tricot Machine shown by Robert Reiner

MODERN TEXTILES MAGAZINE

NEW YORK, N. Y.—(963)

MONARCH MARKING SYSTEM CO.

DAYTON, OHIO—(710)

EXHIBIT: Tickopes—label, tag or ticket imprinter; Sensomatic—automatic label imprinter and applicator; Pouchomatic—means of automatically feeding film bags through the Sensomatic.
IN ATTENDANCE: J. C. Belle, C. R. Pippen-ger, D. S. Dunwoodie, C. Hucksins, Jr., R. Hartman, T. S. Schofield.

MONTROSE SUPPLY & EQUIPMENT CO.

BROOKLYN, N. Y.—(1024)

EXHIBIT: Sandt hydraulic die cutting machine; Kuris band cutting machine; automatic string machine; automatic pom pom machine; display of knitting machine supplies, incl. replacement springs, brushes, porcelains, control cords, gears, etc.
IN ATTENDANCE: Fred B. Muchnick, Jerome Muchnick, Fred Kessler, Louis Haberman.

MORGAN DYEING & BLEACHING CO.

ROCHELLE, ILLINOIS—(512)

EXHIBIT: Yarns that have been both pack-age and skein dyed, as well as garments made of yarns of each type; also various dyed fibers and pile fabric produced from similar fiber.
IN ATTENDANCE: I. A. Rolfe, Harry L. Loe-fgren, George Gaede.

MULLER & CO., INC., L. P.

BALA-CYNWYD, PA.—(357 & 358)

EXHIBIT: Cotton yarns and synthetics; fiber glass for insulation.
IN ATTENDANCE: H. D. Muller, H. G. Har-per, J. T. Hawthorne, H. R. Peck, Tom Dove, J. M. Matlack, T. H. Nicholson, F. W. Ward, H. R. Penington, T. C. Brown, E. W. Dunham.

NAMM & SINGER

NEW YORK, N. Y.—(23)

EXHIBIT: Their Electra Jetmatic button sewing equipment.
IN ATTENDANCE: J. Weisenberg, Mac Gold-man, A. Lombardo.

NARROW FABRIC CO.

READING, PA.—(513)

EXHIBIT: Elastic and non-elastic products made on weaving, knitting, lace and braiding machines, they will also fea-ture Spandex products.
IN ATTENDANCE: S. R. Fry, T. P. Handwerk, F. S. Pierce, O. E. Huber, T. M. Fry, K. R. Lieb, S. S. MacCallum, H. V. Ver-nat, Jr., O. A. Kemp.

NATIONAL INDUSTRIAL MACHINERY

CORP.

NEW YORK, N. Y.—(433)

EXHIBIT: Twin-feed Lonati ladies' seamless knitting machines, plain, mesh and stretch.
IN ATTENDANCE: J. N. Bogoff.

NATIONAL SPINNING CO., INC.

NEW YORK, NEW YORK—(1006)

EXHIBIT: They will show a variety of their yarns, incl. worsted, Zephir, Mohlan, nylon, Turbo Orion, Spun-Gee, Ban-Lon, Yama, Natura, Acrilan, Vybran, Amora, and Savelle, as well as garments and fabrics made of these yarns.

IN ATTENDANCE: Phillip Leff, Carl Leff, Joseph Leff, Joseph Freeman, Irving Lopatey, Morgan Miller, Milton Levy, John Church, Howard Bergman, Robert Greenfield, Hyman Schwartz, Norman Lynn.

NATIONAL VULCANIZED FIBRE CO.

WILMINGTON, DELAWARE—(915)

EXHIBIT: Metal, fibre and plastic textile material handling items of their Fisher Division; Their Lestershire Division will display an assortment of new brazed alu-minum spools and bobbins, incl. a new Model 10 twister bobbin.
IN ATTENDANCE: E. B. Burnley, G. M. Hutchinson, J. G. Fisher, H. E. Matych, D. E. Williams.

OLD DOMINION BOX CO.

LYNCHBURG, VIRGINIA—(1001)

ORDNANCE GAUGE CO.

PHILADELPHIA, PA.—(729)

PANAMERICAN PUBLISHING CO., INC.

NEW YORK, N. Y.—(926)

PARAMOUNT TEXTILE MACHINERY CO.

KANKAKEE, ILLINOIS—(237)

THE FRANK PARIZEK MANUFACTURING

CO.

NEW YORK, N. Y.—(162)

EXHIBIT: Quality buttons of the self shank and sew-through variety in thermoset-ting polyester and molded plastic com-pounds; automatic self shank button at-taching devices.

IN ATTENDANCE: Joseph C. Wiener, George R. McAlister.

PELLON CORPORATION

NEW YORK, N. Y.—(213)

EXHIBIT: The display features stylized illustrations depicting the scope and growth of the Pellon Corp. whose prod-ucts, Pellon and Pelomite have more than one thousand uses, including the latest nonwoven shaping materials and laminating materials for the apparel in-dustry.

IN ATTENDANCE: Harold Bolman, Mac Wolff, Steve Elstein.

JOSEPH PERNICK CO., INC.

MASPETH, L. I., N. Y.—(805)

EXHIBIT: A 72" measuring and examining machine for all types of laminated fabrics as well as tubular knits; a gumming and slitting machine; calenders for knit goods; slitting, opening and rolling ma-chines; all equipment for preparing tubular knits for laminating and the handling of double knits.

IN ATTENDANCE: David Pernick, Mark Pernick, David Haft, Peter Haft.

PHARR WORSTED MILLS, INC.
PHILADELPHIA, PA.—(49)

EXHIBIT: The booth will be carpeted with a specially made rug out of their nylon yarn and the items displayed will be the various Pharr worsteds, zephyr and synthetic yarns.

IN ATTENDANCE: W. J. Pharr, W. J. Pharr, Jr., G. M. Howe, J. C. Poag, Martin Carstarphen, Dayton Larzelere, J. T. Manning, III, G. F. Bottomley, E. L. Dale, J. L. Dale, Louis C. Clelland.

PHILADELPHIA METAL DRYING FORM, INC.
PHILADELPHIA, PA.—(665)

PIEDMONT PROCESSING CO.
BELMONT, N. C.—(532)

EXHIBIT: They are producers of bleached and dyed cotton knitting yarns, both combed and carded; therefore, their booth will be used as a place for their customers to relax and talk business.

IN ATTENDANCE: James H. Martin, Jr., Francis E. Stuart, H. J. Jordan, Jr., C. L. Blomgren, Milton Lichtenberg.

QUEENS MACHINE CORP.
BROOKLYN, N. Y.—(120)

EXHIBIT: In operation their new 2½/3 cut flat "V" bed knitting machine Model B; also their new 4 cut Model TH tandem head flat links & links knitting machine; various small trimming knitting machines.

IN ATTENDANCE: Michael Zimic, Emil S. Zimic, J. Miskovsky, W. Corby.

REECE CORP., THE
WALTHAM, MASS.—(825)

EXHIBIT: Label sewer, button hole machines, edge finisher, tacker, and pocket melting machine.

IN ATTENDANCE: J. H. Pikul, A. F. Christensen, D. E. Toran, J. Cruden, O. F. Paul, M. Messina.

REFINED PRODUCTS CO.
LYNDHURST, N. J.—(1001A)

EXHIBIT: Knit goods finished with their finishing compounds and resins.

IN ATTENDANCE: A. J. Ramunda, George Maynard, George Purdy, Samuel Van Haste, Joseph Birch, D. M. Musser, George Fine.

ROBERT REINER, INC.
WEEHAWKEN, N. J.—(901)

EXHIBIT: Two models, a 2-bar and 3-bar, 168" LIBA tricot machine; a 63" DOFU transfer Schaffhausen V-bed knitter 12 gauge and a 63" DOFU double lock Schaffhausen V-bed knitter 3-gauge.

IN ATTENDANCE: John A. Vollman, K. T. Marx, W. Horn, Walter Mueller, Walter Ritzmann, Otto Schaufelberger, Gunnar Liebrandt, H. D. Scheube, Sai Cambria, Walter Pecha, A. Minieri.

RELIABLE MACHINE WORKS, INC.
BROOKLYN, N. Y.—(726)

RHODIA, INC.
NEW YORK, N. Y.—(205)

EXHIBIT: Rhovil fibers and yarns and knitted articles made from them.

IN ATTENDANCE: L. Hochstaedter.

RICHMOND OIL, SOAP & CHEMICAL CO., INC.
PHILADELPHIA, PA.—(267)

EXHIBIT: Complete line of textile chemical specialties for spinning, coning, knitting, scouring, dyeing and finishing of all types of yarns and fabrics.

IN ATTENDANCE: William Alkus, Morton W. Levi, John W. Schenkel, James W. Lederer, Noel Fawcett, Richard L. Fawcett.

ROCHESTER BUTTON CO.
ROCHESTER, N. Y.—(906)

EXHIBIT: Their new So-Thru button feeder, also their latest model Speed Feed shank button feeder; complete and varied line of buttons.

IN ATTENDANCE: Bernard Popkin, Harold Hasin, Robert Udowitch, Gunther Scheibert.

ROTHKOPF & CO., INC., MAC M.
BROOKLYN, N. Y.—(763)

EXHIBIT: Three new Mayer & Cie. machines, a double jersey jacquard, a multi-feed interlock machine, and a pattern-underwear knit machine; also latch needles for flat and circular knit machines.

IN ATTENDANCE: Mac M. Rothkopf, Gene A. Rothkopf, A. S. Rothkopf, S. Guinness, Arthur Trenholme, P. B. Couste.

SACO-LOWELL SHOPS
BOSTON, MASS.—(78)

SALMON ASSOCIATES, INC., KURT
WASHINGTON, D. C.—(807)

EXHIBIT: As consultants, they have publications by staff members for distribution; some of the staff are available for consultations.

IN ATTENDANCE: Kurt Salmon, R. D. Runnels, Jr.

SANITIZED SALES CO. OF AMERICA, INC.
NEW YORK, N. Y.—(835)

EXHIBIT: They will feature the benefits of Sanitized hygienic chemicals, especially formulated for the knitting industry.

IN ATTENDANCE: M. Ressler, B. Nusbaum, L. Kahn, B. Hilton, J. Sande, J. Valente, R. Humphreys.

SCHOLLER BROTHERS, INC.
PHILADELPHIA, PA.—(701)

EXHIBIT: They will feature the Dura Beau, Schollerized, Lanolized, and the Hysorb finishes for full fashion, seamless and stretch hosiery; also finishes for knitted, woven, and wash-and-wear fabrics.

IN ATTENDANCE: E. S. Atkinson, L. M. Boyd, E. J. Fitzgerald, Jr., A. T. Glenn, W. Jackson, Jr., Robert Martin, L. O. Koons, A. H. Miller, D. E. Robertson, J. O. Sweitzer, C. H. Schuettler, W. R. Sargent, W. S. Truette.

SCHWABE, INC., HERMAN
BROOKLYN, N. Y.—(1030)

EXHIBIT: Die cutting machinery especially designed for the knitting industry.

IN ATTENDANCE: Herman Schwabe, Edgar Haas, Jack Weil.

SCOTT & WILLIAMS, INC.
NEW YORK, N. Y.—(561)

EXHIBIT: They will show six models for knitting ladies' seam free nylons; six models for knitting men's, women's and children's hosiery; their new Model H. S. looper; a number of machines for the production of knit fabrics.

SCOVILL MANUFACTURING CO.
WATERBURY, CONN.—(412)

EXHIBIT: Gripper snap fasteners, featuring the patented radial rib socket with rolled lip, also their duo-stud combination gripper snap fastener for knitwear.

SEAMLESS KNITTING MACHINERY CORP.
NEW YORK, N. Y.—(861)

SELLERS MANUFACTURING CO.
SAXAPAHAW, N. C.—(60)

EXHIBIT: Combed cotton knitting yarns of all descriptions.

IN ATTENDANCE: F. W. Fawcett, H. Stelter.

SERVO-STOP
ROANNE, FRANCE—(961)

EXHIBIT: Their Electomat V. S. machine with two carriages for the production of collars and trimmings; Intarsia Strip Machine Type M.G.R.; and M.A.P. Type Machine for Jacquard strips.

IN ATTENDANCE: Peter Fleischhacker.

SHELL OIL CO.
NEW YORK, N. Y.—(18)

EXHIBIT: Various types of their oils for the textile industry.

SINGER-FIDELITY, INC.
PHILADELPHIA, PA.—(461)

EXHIBIT: No information available at press time.

IN ATTENDANCE: Lawrence Katz, Edmund L. Lauber, Robert Peel, Pete A. Mahler.

SINGER SEWING MACHINE CO.
NEW YORK, N. Y.—(455)

EXHIBIT: Various types and models of their sewing machines; also work handling equipment, industrial vacuum cleaners and other labor saving equipment and devices.

IN ATTENDANCE: J. E. Wertz, P. R. Mohnney, J. Santella, G. C. Dickson, R. Criqui, A. Shenusky, J. Rockerath, A. Millington, W. O'Connell, E. Bobonis.

SOABAR CO.
PHILADELPHIA, PA.—(104)

EXHIBIT: Ticket and label marking equipment, also label marking and attaching equipment, featuring their new Soaseal ticketing machine.

IN ATTENDANCE: C. B. Hutchinson, S. N. White, Tracy B. Clute, Oscar Turran, Bert S. Gowdy, William A. Roberts, James Meehan.

SONOCO PRODUCTS CO.
HARTSVILLE, S. C.—(209)

EXHIBIT: Cones, cores, bobbins, tubes, spools and other paper specialties.

IN ATTENDANCE: H. M. Adams, B. H. Biggs, C. L. Burnham, W. J. Durkin, O. F. Fayne, D. R. Godshalk, W. S. Hawkins, C. W. White, C. H. Campbell, A. P. Hearon, J. J. Hughes, W. K. Lewis, Jr., W. R. Peacock, J. C. White, J. A. Reagan, Jr., G. K. Lewis, J. A. Durkin.

SOUTHERN TEXTILE MACHINERY CO.
PADUCAH, KY.—(53)

EXHIBIT: Two models of their inspection machine, and four models of their looper.

IN ATTENDANCE: T. A. Paxton, Russell S. Shelton, Aubrey George, Billy Bryan.

SOUTHERN TEXTILE NEWS
CHARLOTTE, N. C.—(156)

SPEITZMAN CO., INC., MORRIS
CHARLOTTE, N. C.—(161)

EXHIBIT: New Terror "Double Knit" circular knitters, incl. 36 feed high speed unit shown for the first time; new Carolins Model K2FS ladies' hose knitter 400 needle 2 feed; Domisse fabric finisher for double knit jersey type fabrics.

IN ATTENDANCE: Morris Speizman, Ted Valenstein, Larry Speizman, John H. Barnes, David Kast.

STANDARD-COOSA-THATCHER CO.
CHATTANOOGA, TENN.—(541)

EXHIBIT: Mercerized cotton yarns and cotton industrial sewing threads.

IN ATTENDANCE: D. Brooks Barlow, Tomas Besosa, W. C. Bouton, J. H. Clarke, Charles H. Eagar, Joseph O. Foll, Freeman R. Harris, Don Jensen, Muir Lyon, Robert G. Miller, Joseph A. Patrick, R. Dan Pullen, James Schenck, J. M. Smith, Robert C. Swan.

STEELE CANVAS BASKET CO., INC.
CAMBRIDGE, MASS.—(367)

EXHIBIT: Canvas baskets, trucks, hampers and bags.

IN ATTENDANCE: Albert E. Pratley.

STEVENS & CO., INC., J. P.
GREENSBORO, N. C.

STONEHILL KNITTING MACHINES CORP.
BROOKLYN, N. Y.—(725)

STOP-MOTION DEVICES CORP.
BROOKLYN, N. Y.—(761)

EXHIBIT: Their Wesco electric stop motion shown on knitting and sewing machines in operation; Wesco two-stage electric yarn furnishing device; Wesco tenso-lators; tension assemblies; spring type cone holders; hole and press-off detectors; Guardian rib hole detectors.

IN ATTENDANCE: N. J. Tellerman, Gordon F. Connors, Vincent G. Chaplin, Robert Handelsman, Edward Vossen, Ferd. Wachsmann.

STREET CO., JOHN F.
PHILADELPHIA, PA.—(818)

EXHIBIT: Sales yarn.

IN ATTENDANCE: E. F. Sherman, Jr., H. A. Street, Jr., H. B. Billian, J. K. Gillespie,

H. G. Johnson, W. L. Nicholson, J. A. MacDonald, G. M. Georgules, W. C. Schmidt, E. Smith, J. A. Long, Jr., W. L. Harris, L. Morrell, P. S. Smith, W. I. Kent, W. T. Kent, G. Marcort.

SUPREME KNITTING MACHINES CO., INC.

OZONE PARK, N. Y.—(125)

EXHIBIT: Circular machines for the production of outerwear and underwear fabrics; fancy twisted yarns by their subsidiary Supreme Novelty Yarns, Inc.

IN ATTENDANCE: Lester Mishcon, Sidney Mishcon, Bernard Narker, Irving Golden, Jack Radin, Joseph Teitlebaum, Sidney Bienenfeld, Felix Sternson.

JAMES TALCOTT, INC.

NEW YORK, N. Y.—(833)

EXHIBIT: As a factoring and financing company, their display will describe their services.

IN ATTENDANCE: Joseph A. Zeller, Dan E. Grow, Jack Snyder.

TEMPLETON SPINNING MILLS, INC.

NEW YORK, N. Y.—(136)

EXHIBIT: Latest developments on worsted and synthetic yarns for the knitting trades and products knitted of these yarns.

IN ATTENDANCE: M. Leopold, R. Dalton, R. Virgil, Mac Bier, J. Webster, Martin D. Bier, Monroe Seligman, M. Glassenberg.

TEXTILES, INC.

ABINGTON, PA.—(828)

TEXTILE INDUSTRIES

ATLANTA, GEORGIA—(111)

TEXTILE WORLD

GREENVILLE, S. C.—(940)

TEXTILE MACHINE WORKS

READING, PA.—(401)

EXHIBIT: Several new machines in the seamless and circular knitting field; samples of outerwear produced on their Reading full-fashioned outerwear machine, as well as stockings from their 200 automatic full-fashioned knitting machine; wire products.

IN ATTENDANCE: L. R. Thun, E. P. Master, H. G. Fiedler, R. J. Ryan, L. T. Yeager, R. W. Weaver, L. P. Garrigan, C. R. Erb, B. F. Coile, M. A. Coudeu, E. P. Frank, H. R. Haak, D. J. Hehr, D. L. Heydt, F. L. Hughes, P. A. Jacquand, R. Janda, H. Kretz, C. R. Moyer, D. A. McDonnell, G. McKenzie, H. R. Wade, K. Williams.

TEXTURED YARN CO.

NEW YORK, N. Y.—(1007)

EXHIBIT: Not available at press time.

IN ATTENDANCE: Irving Schwartz, Ira Schwartz, R. K. Stanley, Scott Alexander.

THREADS, INC.

CHICAGO, ILL.—(935)

TOMPKINS BROS. CO., INC.

SYRACUSE, N. Y.—(10)

EXHIBIT: Their new 54" circular spring needle carpet knitting machine.

IN ATTENDANCE: (Incomplete)

THE TORRINGTON COMPANY

TORRINGTON, CONN.—(437)

EXHIBIT: New advances in the design, manufacture and packaging of their knitting and sewing machine needles will be featured; complete line of Scott & Williams flat parts for hosiery and circular machines.

IN ATTENDANCE: R. T. Dunlap, E. B. Thompson, W. R. Reid, C. H. Rowe, C. R. Johnson, L. W. Losee, E. F. Didier and others.

TRICOMA, INC.

NEW YORK, N. Y.—(255 & 655)

EXHIBIT: A circular rib jacquard machine and two circular interlock machines, built by Lebocey & Cie. of France; fully automatic single lock flat power machine by Alemannia-Seyfert & Donner of West Germany; 400 needle seamless hosiery machine by Schubert & Salzer; double cylinder three-feed machines built by Officine Moncenisio of Italy.

IN ATTENDANCE: Walter W. Glocer, A. Schoenberg, E. Just, U. Glocer.

TUBULAR TEXTILE MACHINERY CORP.

WOODSIDE, N. Y.—(101) (105 & 204)

EXHIBIT: Complete line of Tube-Tex equipment for the processing of circular knit fabrics; featured will be their Reelax-Jet dryer, tensionless calender, matching machine and extractor pad; special emphasis will be placed on their new Tri-Pad and open width finishing machine.

IN ATTENDANCE: Eugene Cohn, Don Foreman, Lee Rothenberg, Jr., Gene Lo Bell, Edward Goodman, Frank Alshouse, Eugene Weeden, Mathew Barbiasz.

TURBO MACHINE CO.

LANSDALE, PA.—(151 & 152)

E. W. TWITCHELL, INC.

PHILADELPHIA, PA.—(140)

UNION CARBIDE CHEMICALS, CO.

NEW YORK, N. Y.—(719)

UNITED ELASTIC CORPORATION

EASTHAMPTON, MASS.—(341)

EXHIBIT: Elastic webbing, braid and cord of all types; elastic and non-elastic webbing for athletic and surgical items; power net for foundation garments; Raschel knit fabric for underwear for cold weather conditions; Anchorlastic and Anchortex.

IN ATTENDANCE: R. A. Waite, P. M. McIntosh, S. C. Lilley, Walter E. Dalby, E. E. Cadwell, E. R. Boehm, G. B. Weldhaas, D. B. Cameron, F. L. Dorr, C. J. Winkler, H. O. Hollingworth, Hugh White, Malcolm Fillmore, John K. DeBold, Sidney W. Tingen.

UNION SPECIAL MACHINE CO.

CHICAGO, ILL.—(425, 427, 429, 431, 526, 528, 530)

EXHIBIT: They will have on display a total of 25 new and advanced types of industrial sewing machines, comprising a great number of classes and styles.

U.S. BLIND STITCH MACHINE CORP.

NEW YORK, N. Y.—(82)

EXHIBIT: Several models of their blind stitch machines and an extensive line of their Rimoldi machines for which they are distributors in this country; many of the machines are mounted on the latest type stands equipped with needle positioners and other work aids.

U.S. LEASING CORP.

SAN FRANCISCO, CALIF.—(1031)

EXHIBIT: Space to be used as reception booth, where details on their complete lease engineering service are available.

IN ATTENDANCE: Harold R. Sumner William Mallory, Richard L. Tevis.

U.S. RUBBER CO.

NEW YORK, N. Y.—(525)

EXHIBIT: Lastex and Laton elastic yarns, Vyrene Spandex fiber, Lactron extruded rubber thread, and Revere rubber thread and tape. They will also have on display their U.S. Royal knitting yarns.

IN ATTENDANCE: J. L. Allen, M. E. Bliss, L. M. Boulware, W. J. Connelly, H. E. Cooper, A. R. Engel, W. F. Giddings, B. E. Kelton, P. J. Regan, H. A. Young, R. A. Ail, T. S. Byrne, R. P. Clark, S. K. George, III, R. R. Hampton, V. C. McQuiddy, Jr., A. E. O'Heir, F. C. Phillips, G. W. Wright, W. L. Wylie.

UTICA NOVELTY & MILL SPECIALTY CO.

UTICA, N. Y.—(146)

EXHIBIT: Their combination cutting and winding machine; automatic double cuff cutting & turning machine; collarete cutting & winding machine; and hand laying-up machine.

IN ATTENDANCE: Joseph A. Firching, Jr., Donald Firching, Joseph A. Firching, III,

VENANGO ENGINEERING CO.

PHILADELPHIA, PA.—(565)

EXHIBIT: Package dyeing equipment for both standard and high temperature operation; new design cabinet type control panel complete with cyclelog temperature controller; their new 25 lb capacity combination washing and dyeing machine.

IN ATTENDANCE: William Stegers, William A. Fuchswanz.

WILLCOX & GIBBS SEWING MACHINE CO.

NEW YORK, N. Y.—(549)

WATERMAN, LARGEN & CO., INC.

NEW YORK, N. Y.—(529 & 531)

EXHIBIT: They are representing Carlton Yarn Mills, Elmvale Worsted Co., and Jonathan Ring Co. and are displaying yarns and garments made from their yarns.

IN ATTENDANCE: G. H. Waterman, Jr., Edward H. Largen, A. James Hackman, M. V. Roughgarden.

WHITIN MACHINE WORKS

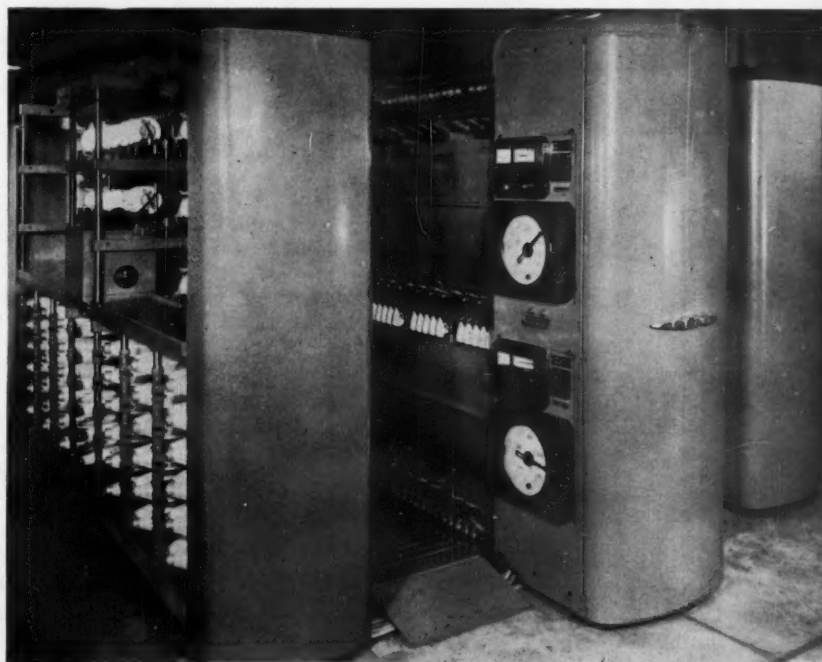
WHITINSVILLE, MASS.—(1005)

EXHIBIT: Their display will be built around a new Type FTF (false twist fixed) machine for the processing of thermoplastic type yarns. The machine is built by Ateliers Roannais de Constructions Textiles (ARCT), Roanne, France.

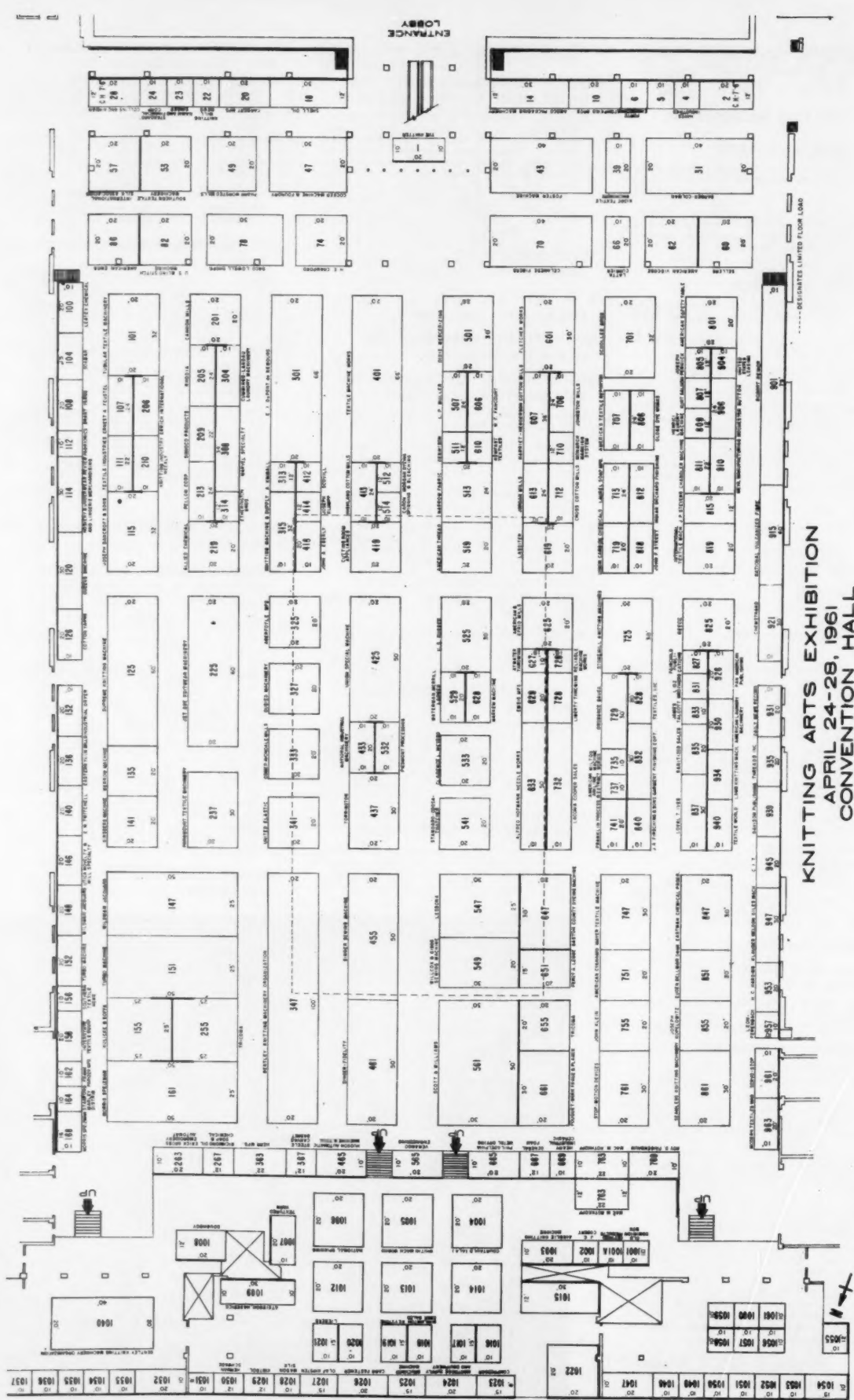
IN ATTENDANCE: Robert F. Waters, J. Hugh Bolton, Jr., R. I. Dalton, W. A. Newell, C. R. Brusse, G. F. McRoberts, Henry Crouzet, Rene Lauer.

WIDMAN JACQUARD CO., INC.

MORRISTOWN, PA.—(147)



Whitin's ARCT Model FTF False Twist Machine



KNITTING ARTS EXHIBITION
APRIL 24-28, 1961
CONVENTION HALL
ATLANTIC CITY

4-11-60 8-14-60
5-17-60 10-19-60
11-21-60 1-23-61

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarn, staple and tow as reported by the producers in March 1961. All prices are given to change without notice.

CELLULOSIC YARNS

ACETATE

American Viscose Corp.

Current Prices Effective March 22, 1960

Denier & Filaments	Intermediate Twist**			Spinning Twist		
	Cones	T-Tubes	Warps	Cones & C-Tubes	Warps	
40/11	...	...	...	...	...	...
45/14	...	...	...	...	...	...
55/14-20	.99	.97	1.00	.93	.87*	1.03
75/20	.95	.93	.96	.89	.90	.90
100/28	.91	.89	.92	.85	.86	.90
120/32	.82	.80	.83	.76	.77	.90
150/36	...	...	...	...	.70	.90
150/41	.74	.73	.75	.69	.70	.90
200/54	.70	.69	.71	.66	.67	.90
240/80	...	...	...	...	.66	.90
300/80	.66	.65	.67	.62	.63	.90

* Tricot Spools Only.

** Standard Twist 2¢ Additional.

Terms: Net 30 Days.

Celanese Fibers Company

Current Prices Effective March 22, 1960

Acetate Filament Yarn Prices Bright and Dull

Denier and Filaments	Intermediate Twist			Spinning Twist		
	4 & 6-Lb. Cones	Beams	4-Pound Cheeses	Cones	Beams	0 Twist Tubes
45/13	\$1.12	\$1.13	...	...	\$1.03*	...
55/15	.99	1.00	...	.89	.90	.82
75/20	.95	.96	...	.89	.90	.86
75/50	.97	.98	...	.89	.90	.86
100/26-40	.91	.92	...	.85	.86	...
120/40	.82	.83	...	.76	.77	...
150/40	.74	.75	.74	.69	.70	...
200/52	.70	.71	...	.66	.67	...
240/80	.68	...	...	.64	...	...
300/80	.66	.67	...	.62	.63	...
450/120	.66	.67	...	.62	.63	...
600/160	.65	.66	...	...	...	...
900/80-240	.63	.64	...	...	...	...

* Tricot beams only. This item with Permashem—\$.05 additional.

37/10 electrical finish available at no premium.

3 to 5 turns on Cones or Beams ... \$.02 Additional

Over 5 turns—55 denier ... \$.06 Additional per Turn

Over 5 turns—75 denier ... \$.04 Additional per Turn

Over 5 turns—100 denier ... \$.03 Additional per Turn

Over 5 turns—150 denier & coarser ... \$.02 Additional per Turn

150 Denier 12-TM Tubes ... \$.73

3 Pound Cheeses ... \$.01 Less than 4-lb. Cheeses

2-BU and 4-BU Tubes ... Same price as 4 & 6-lb. cones

Premium for Serving Tubes ... \$.05

Part Cone Premiums: 2-lbs. ... \$.05

1-lb. ... \$.10

Under 1-lb. ... \$.20

Celaperm Filament Yarn Prices

Denier and Filaments	Intermediate Twist			Spinning Twist		
	4 & 6-Lb. Cones	Beams		Cones	Beams	
55/15	\$1.37	\$1.38	...	\$1.31	\$1.32	...
75/20	1.34	1.35	...	1.28	1.29	...
100/26	1.28	1.29	...	1.22	1.23	...
120/40	1.19	1.20	...	1.13	1.14	...
*150/40	1.11	1.12	...	1.06	1.07	...
200/104	1.05	1.06	...	1.01	1.02	...
300/80	1.01	1.02	...	.97	.98	...
450/120	.89	1.00	...	.95	.96	...
600/160	.97	.98	...	...	...	...
900/240	.94	...	...	...	...	...

* 150/22/40 available in all colors. Contact our District Sales Representative for current availability of colors in other denier.

Over 5 turns—55 denier ... \$.06 Additional per Turn

Over 5 turns—75 denier ... \$.04 Additional per Turn

Over 5 turns—100 denier ... \$.03 Additional per Turn

Over 5 turns—150 denier & coarser ... \$.02 Additional per Turn

Celaperm Black Yarn Prices

Effective March 22, 1960

Denier and Filaments	Intermediate Twist			Spinning Twist		
	4 & 6-Lb. Cones	Beams		Cones	Beams	
55/15	\$1.17	\$1.18	...	\$1.11	\$1.12	...
75/20	1.14	1.15	...	1.08	1.09	...
100/26	1.08	1.09	...	1.02	1.03	...
120/40	.99	1.00	...	.93	.94	...
150/40	.91	.92	...	.86	.87	...
200/52	.85	.86	...	.81	.82	...
300/80	.81	.82	...	.77	.78	...
450/120	.79	.80	...	.75	.76	...
600/160	.77	.78	...	...	...	...
900/80	.74	...	...	...	...	...

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Acele" Acetate Bright & Dull

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	2 & 4 Lb. % Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Beams
45-13	\$.94	\$1.02	...	...	...	...	...	...
55-18	.82	.86	...	...	...	...	\$.99	\$1.00
55-24	.82	.86	...	...	...	...	.99	1.00
75-24	.86	.89	...	\$.90	...	\$.93	.95	.96
75-50	...	...	...	.92	...	.95	.97	.98
100-32	.82	.85	...	.86	...	.89	.91	.92
120-50	.73	.76	...	.77	...	.82	.83	.83
150-40	.66	.69	...	.70	...	.74	.75	.75
200-60	.65	.66	...	.67	...	.70	.71	.71
240-80	...	.65	...	.65	...	.69	.69	.69
300-80	.60	.62	...	.63	\$.66	.66	.66	.66
450-120	.61	.62	...	.63	.66	.66	.66	.66
600-160	...	...	...	...	.65	.65	.65	.65
900-44	...	...	...	...	.63***	...	...	...
900-240	.61**	...	...	...	...	.63	...	...
1800-88	...	...	...	...	.61***	...	...	...
2700-132	...	...	...	...	.61***	...	...	...
3000-210	...	...	...	...	.61	...	...	...

1800 Type 20 only.

(B) 1 lb. % Tubes—add \$.02 to 2 & 4 lb. % Tube Price.

** Bright only 2" Tubes.

*** Type 20 only.

Color-Sealed

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	2 & 4 Lb. % Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Beams
75-24	\$1.18	\$1.28	...	...	...	...	...	...
100-32	1.14	1.23	...	1.07	...	1.11	1.12	1.12
150-40	1.03	1.06	1.06	1.07	...	1.01	1.02	1.02
300-80	...	.97	...	...	...	...	...	...

Black

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	4 & 6 Lb. Tw. Tbs.	Cones	Beams	
55-18	\$1.045	...	...	...	...	\$1.17	\$1.18	...
75-24	.98	\$1.08	...	\$1.09	...	1.14	1.15	...
100-32	.94	...	1.03	...	\$1.06	1.08	1.09	...
150-40	.83	.86	\$.86	.87	.91	.91	.92	...
200-60	...	...	...	...	.85	.85	.86	...
300-80	.75	.77	.77	.78	.81*	.81	.82	...
900-44	...	...	...	...	.74*	.74	...	...

* 2 & 4 lb. % tbs. is same price as 4 & 6 Tw. Tbs.

Specialty Yarns Cycloset for Tricot

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	4 & 6 Lb. Tw. Tbs.	Cones	Beams	
40-13 Natural	...	\$1.07	...	...	...	\$1.14	\$1.14	...
55-18/24 Natural83	...	...	...	.87	.87	...
75-24 Natural87	...	...	...	.90	.90	...
100-32 Natural83	...	...	...	.86	.86	...
40-13 Black	...	1.22	...	...	...	1.29	1.29	...
55-18 Black	...	1.08	...	...	...	1.12	1.12	...

Terms: Net 30 days. Subject to changes without notice.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

* Dupont's Trademark for its acetate yarn.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

"Estron" Yarn, Bright or Dull — White

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist		Zero Twist		Tricot Beams	
	Cones	Beams	Cones	Beams	Cones	Beams	Tubes	Spun Twist	Zero Twist	Tricot Beams
55/13	\$1.01	\$1.02	\$0.99	\$1.00	\$0.93	\$0.94	\$0.82	\$0.87	\$0.86	...
75/19	.97	.98	.95	.96	.89	.90	...	.90	...	...
75/49	.99	1.00	.97	.98	...	...	...	...	...	...
100/25	.83	.84	.81	.82	.85	.86	...	...	...	...
120/30	.84	.85	.82	.83	.76	.77	...	...	...	...
150/38	.76	.77	.74	.75	.69	.70	...	...	...	...
200/50	.72	.73	.70	.71	.66	.67	...	...	...	...
300/75	.68	.69	.66	.67	.62	.63	...	.60	...	...
450/114	.68	.69	.66	.67	.62	.63	...	...	...	...
600/156	.67	.68	.65	.66	.62	.63	...	...	...	...
900/230	.65	.66	.63	.64	...	...	...	.61	...	...
Heavier	...	...	...	...	...	...	...	.56	...	...

Current

"Chromspun"***—Standard Colors (Except Black)

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist	
	Cones	Beams	Cones	Beams	Cones	Beams
55/13	\$1.30	\$1.40	\$1.37	\$1.38	\$1.31	\$1.32
75/19	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38	.....	.....	1.11	1.12	1.06	1.07
200/50	.....	.....	1.01	1.02	.97	.98
300/75	.....	.....	.99	1.00	.95	.96
450/114	.....	.....	.94	.95	.....	.....
900/230	.....	.....	.....	.....	.....	.....

Current Prices

"Chromspun"***—Black

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist	
	Cones	Beams	Cones	Beams	Cones	Beams
55/13	\$1.19	\$1.17	\$1.18	\$1.12	.....	.....
75/19	1.16	1.14	1.15	1.09	.....	.....
100/25	1.10	1.08	1.09	1.03	.....	.....
150/38	.93	.91	.92	.87	.....	.....
200/50	.87	.85	.86	.82	.....	.....
300/75	.83	.81	.82	.78	.....	.....
450/114	.81	.79	.80	.76	.....	.....
900/230	.76	.74	.75	.....	.....	.....

Prices are subject to change without notice.

Prices on special items quoted on request.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

*"Estron" is a trade-mark of the Eastman Kodak Company.

*Chromspun is a trade-mark of the Eastman Kodak Company.

RAYON

American Bemberg

Current Prices

Regular Production Reel Spun Yarn

Den/Fil	No Turn		Turned*		8 1/2		High Turn Skeins & Cones	
	Skeins	Beams	Skeins	Beams	Turns	Beams	Turns	Beams
40/30	\$1.49	\$1.95	.....	.....	.....	.....	.....	.....
50/36	1.29	1.55	.....	.....	.....	.....	.....	.....
65/45	1.22	1.38	.....	.....	.....	.....	.....	.....
75/60**	1.11	1.25	.....	.....	.....	.....	.....	.....
100/74**	1.02	1.15	.....	.....	.....	.....	.....	.....
125/90	1.01	1.12	.....	.....	.....	.....	.....	.....
150/120	.99	1.08	.....	.....	.....	.....	.....	.....
300/225	.....	1.01	.....	.....	.....	.....	.....	.....
900/744	.....	.91	.....	.....	.....	.....	.....	.....
1800/744	.....	.91	.....	.....	.....	.....	.....	.....

* Turn includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.

** Spun Dyed Cupracolor Black 15¢ per lb. extra.

"44" HH Spool Spun Yarn

Den/Fil	No Turn		5 Turn		12 Turn		15 Turn	
	Tubes	Beams	Cones	Beams	Cones	Beams	Cones	Beams
40/30	\$1.35	\$1.35	.....	.....	.....	.....	.....	.....
50/36	1.05	1.05	.....	.....	.....	.....	.....	.....
65/45	1.13	.....	.....	.....	.....	.....	.....	.....
75/45*	1.04	.....	\$1.15	\$1.15	\$1.36	\$1.36	\$1.46	\$1.46
100/80*	.96	.....	1.10	1.10	1.30	1.30	1.38	1.38
125/90*	.91	.....	1.06	1.06	.....	.....	.....	.....
150/90*	.83	.....	.87	.87	1.21	1.21	1.30	1.30
150/120	.87	.....	.....	.....	.....	.....	.....	.....

* Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

"44" HH "Parfe" Spool Spun Yarn

Den/Fil	No Turn		5 Turn		12 Turn		15 Turn	
	Cones	Beams	Cones	Beams	Cones	Beams	Cones	Beams
50/36	\$1.60	\$1.85	\$1.85	.....	.....	.....	.....	.....
75/45	1.48	1.58	1.58	1.78	1.88	.....	.....	.....
100/80	1.35	1.45	1.45	1.68	1.78	.....	.....	.....
150/90	1.21	1.28	1.28	1.63	1.73	.....	.....	.....
300/120	1.21	1.28	.....	.....	.....	.....	.....	.....

Nub-Lite (Short Nubbi)

Code	Den/Fil	2 1/2 Turn		5 Turn		5 Turn	
		Natural	Cones*	Natural	Cones*	Natural	Cones*
1515	160/90	.....	.....	.....	\$1.50	\$1.40	.....
1519**	155/90	.....	.....	.....	1.50	1.40	.....
2008	200/120	.....	.....	.....	1.11	1.01	.....
3002	315/180	.....	.....	.....	.....	.....	.....
4011	410/224	.....	.....	.....	.....	.....	.....
6001	600/390	.....	.....	.....	.....	.....	.....
8001	860/450	.....	.....	.....	.....	.....	.....

* Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.

** Code 1519 can be run in warp or filling.

CUPIONI Type B

Code	Den/Fil	2 1/2 Turn	
		Natural	Cones
9850	70/45	.....	\$1.69
9860	100/60	.....	1.53
1545	150/90	.....	1.30
9730	285/135	.....	1.15
9792	450/225	.....	1.15
9819	600/372	.....	1.12
9837	940/372	.....	1.02

* Spun Dyed Cupracolor is spun 150, 285, and 940 deniers at 35¢ per pound extra. Cupracolor Black Comes in all deniers.

STRATA SLUB

Code	Den/Fil	Turned Cones		Price
		3 1/2	2 1/2	
9747	275/225	.....	.....	\$1.25
9798	450/372	.....	.....	1.15

9823	600/372	2 1/2	1.10
9847	960/372	2 1/2	1.02
9885	1290/372	1 1/2	1.00
9924	2680/744	1 1/2	1.00

* Spun Dyed Cupracolor is spun in 600 and 960 deniers at 35¢ per pound extra.

FLAIKONA

Code	Den/Fil	Turned Cones		Price
		2 1/2	2 1/2	
9699	150/148	.....	.....	\$1.35
9769	300/224	.....	.....	1.25
9782	450/270	.....	.....	1.05
9809	600/360	.....	.....	1.05
9840	900/450	.....	.....	1.00
9924	2000/744	.....	.....	.95

* Spun Dyed Cupracolor Black 35¢ per pound extra.

* Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice.

American Enka Corp.

Current Prices

Effective February 29, 1960

Standard Quality Yarns

NATURAL

Den./Fil.	Luster	Turns	Weaving		Skeins		Cakes	Knitting
			Cones	Beams	Long	Short		
50/18	E	5 S	.....	.....	.....	.....	1.63	.....
50/20	B	4 S&Z	.....	.....	.....	.....	1.52	1.64
75/10	B	3 S&Z	.....	.....	.....	.....	1.02	.....
75/18	E	4 S	.....	.....	.....	.....	.....	1.14
75/30	B	2.5, 4S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/30	B	8 S	1.24	.....	1.49	1.59	1.12	1.24
75/45	P,E	2.5, 4S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/60	B,P	3, 4 Z	1.16	.....	.....	.....	1.04	.....
100/14	B	3 S&Z	.....	.....	.....	1.15	1.23	.90
100/40	B,E	12 S&Z	.....	.....	.....	.....	.....	1.29
100/40	B,P,E	4, 5 S&Z	.98	.....	.....	.....	.90	.98
100/40	B	6 S	1.17	.....	1.34	1.44	1.09	.....
100/40	B,P	2.5, 4S&Z	.98	.98	1.15	1.23	.90	.....
100/60	B	4 S&Z	.....	.....	.....	.....	.90	.....
100/60	E	2.5 S	1.00	1.00	.....	.....	.92	.90
125/40	E	3 S	.96	.96	.....	.....	.87	.....
125/60	B,P	0	.745	.....	.....	.....	.....	.....
150/40	B,E	2.1, 3S&Z	.82	.82	.96	1.03	.78	.82
150/40	B,E	5 S&Z	.90	.90	1.15	1.25	.86	.....
150/40	B,E	8 S&Z	.95	.95	1.20	1.30	.91	.....
150/60	B	3.05	.82	.82	.....	.....	.....	.....
150/90	B	2.1 S&Z	.83	.83	.....	.....	.79	.....
200/40	P	3 Z	.81	.81	.94	1.01	.77	.....
250/60	P,E	2.4 Z	.....	.....	.93	1.00	.77	.80
300/30	E	3 S	.81	.85	.....	.....	.....	.....
300/40	B	3.2 Z	.73	.73	.....	.....	.....	.....
300/50	B,E	3 S	.73	.76	.....	.....	.....	.....
300/60,120	B,P,E	2.1 S&Z	.73	.73	.82	.89	.71	.73
300/60	B	3.5 S	.73	.73	.82	.89	.71	.....
300/60	B	6 S	.86	.86	.....	.....	1.00	.84
300/120H.T.	B	2.5 S	.75	.75	.....	.....	.73	.....
450/60	B	3 S	.69	.71	.....	.....	.67	.....
450/80	B,E	3 S	.69	.71	.78	.85	.67	.....
600/80	B,E	3 S	.73	.75	.....	.....	.....	.....
600/120	B,E	3 S	.69	.71	.78	.85	.67	.....
900/120	B	3.4 S	.69	.71	.78	.85	.67	.....
900/120H.T.	B	3.4 S	.71	.71	.....	.....	.69	.....

B = Brigo

P = Perigo (Semi-Dull)

E = Englo (Dull)

H.T. = High Tenacity

Jetspun® (Colored Yarns)

Den./Fil.	Tenacity	Turns	Weaving		Colors
			Cones	Beams	
100/40	Regular	2.5S	\$1.35	\$1.35	All
150/40	Regular	2.1S	1.17	1.17	All
200/40	Regular	8.0S	1.28	1.28	All
300/120	Regular	2.1S	1.09	1.09	All
450/80	Regular	3.0S	1.05	1.05	All
600/80	Regular	3.4S	1.04	1.04	All
900/120	High	3.4S	1.11	1.11	All
900/120	High	3.4S	1.06	1.06	All

® Registered Trade Mark for American Enka Solution-dyed Rayon Yarn.

Skyloft® (Lofted Rayon Filament Yarns)

Natural and Jetspun®

Denier	Denier per Filament	Twist	Cones or Tubes		Other Colors
			Natural	Black	
1000	7.5	3.4S	\$.82	\$1.06	\$1.06
5300	15	3.0S&Z	.65	.75	.82

Registered Trademark for American Enka Texturized yarn.

American Viscose Corp.

Effective October 13, 1959

Graded Yarns

Denier	Filament	Type	Grades Terms							
			Regular Turns		Short Skeins	Long Skeins	Cones Tubes	Beams Spools	Cakes	
75	10-30	Bright	\$1.41	\$1.32	\$1.14	\$1.14	\$1.14	\$1.02		
75	30	Dull			1.14	1.14	1.14	1.02		
100	14-40	Bright	1.23	1.15	.98	.98	.98	.98		

in yarn dyeing aiming
to please...is NOT enough!



*ATLANTIC "hits the mark" for
color accuracy every time!*

YARN DYEING

Rayon • Nylon • Acetate • Stretch Yarns
Cakes • Packages • Skeins

Custom-matched colors. Large dye batches.
Any degree of color fastness. Packaged as desired.

PROMPT DELIVERY

Atlantic
Yarn Corporation

125 WEST 41st ST., NEW YORK 36, LONGACRE 3-4200
PLANT: 86 CRARY ST., PROVIDENCE, R. I.

Changes at Celanese

Celanese Corp. of America has realigned major executive functions, with broad responsibilities assigned to the three corporate executive vice presidents. Under the new alignment James R. Kennedy, as executive vice president-finance and administration, has charge over corporate financial planning and administration; John W. Brooks is executive vice president-domestic operations, including direction over the four domestic operation companies (Celanese Fibers Co., Celanese Chemical Co., Celanese Polymer Co., and Celanese Plastics Co.); and Richard W. KixMiller, executive vice president in charge of international operations. Kenneth C. Loughlin, has retired as president of Celanese Corp. after 32 years of service. Harold Blancke, chairman and chief executive officer, has assumed the office of president in addition to his other duties.

Foam Interlining Material

A new formulation polyester urethane foam for garment interlinings, has been developed by Nopco Chemical Co. The foam is said to afford a closer knit appearance, better drape and softer 'hand' than any previous foam. It is expected to find wide application in garment fabrics, including knits and tricots, through its ability to provide warmth with light weight and good appearance.

Nopco has started construction of its new seven million dollar isocyanate plant near Linden, N. J. The new plant, expected to go on stream in early 1962, will make principally toluene diisocyanate (TDI) a basic ingredient for the urethane foams produced by the company's plastics division.

APRIL, 1961

C. W. Coker Heads Sonoco



C. W. Coker

C. W. Coker has been named president of Sonoco Products Co. to succeed the late James L. Coker, III. He has been with Sonoco since 1930 and was elected vice president in 1931 and executive vice president in 1950.

The new president is the grandson of Sonoco's founder, Major James Lide Coker. His father, Charles Westfield Coker, served as president from 1918 until 1931. A native of Hartsville, S. C., Coker graduated from the University of South Carolina and attended Harvard School of Business. In 1958 he received an honorary degree of Doctor of Laws from the South Carolina school.

According to Sonoco's annual report recently made public, the company's net earnings, sales and dividend payments all increased in 1960. Net earnings, including those of the wholly-owned Newton Paper Co., Inc., rose to \$2.39 a share in 1960 from \$2.37 in 1959. Sales totaled \$38,000,216 last year, as against \$36,033,409 in 1959.

Other company officers are: C. H. Campbell, vice president-sales; R. G. Coker, vice president-engineering; J. H. Martin, vice president, and R. A. Terry, treasurer.

over a barrel by late
yarn shipments?



*Malina delivers when promised...
from the country's largest selection of*

RAYON • NYLON • ACETATE YARNS
graded and inferior—*all put ups.*

MALORA* METALLIC YARNS
supported and unsupported

THROWN YARNS

HELANCA* STRETCH YARNS
NYLON • DACRON



125 WEST 41st STREET, NEW YORK 36, LONGACRE 3-4200

* T. M.

100 60	Dull	.....	.....	1.00	1.00	.92
150 24-40	Bright	1.03	.96	.82	.82	.78
150 40	Semi-Dull	1.03	.96	.82	.82	.78
150 40	Dull	.....	.....	.83	.82	.78
150 90	Dull	.....	.....	.83	.....	.79
200 10-44	Bright	1.01	.94	.81	.81	.77
250 60	Semi-Dull & Dull	1.00	.93	.80	.80	.77
300 15	Bright	.....	.85	.78	.78	.....
300 30	Dull Flat Filament	.....	.....	.....	.85	.....
300 44	Bright & Dull	.89	.82	.73	.73	.71
300 234	Dull	.....	.....	.83	.....	.81
450 60-100	Bright	.....	.78	.69	.71	.67
600 100	Bright & Dull	.....	.78	.69	.71	.67
900 50-100-150	Bright	.....	.78	.69	.71	.67
1200 75	Bright	.....	.78	.69	.71	.....
2700 150	Bright	.....	.78	.69	.71	.....

Extra Turns Per Inch

150 40	Bright 6-Turns	\$1.25	\$1.15	\$.90	\$.90	\$.88
200 44	Bright 6-Turns	.....	1.05	.96	.96	.....
300 15	Bright 5-Turns	.....	.....	.86	.86	.....
300 44	Bright 4.5-Turns	.....	.....	.81	.....	.79
300 44	Bright 6-Turns	.97	.90	.86	.86	.84
300 120	Rayflex 6-Turns	.....	.....	.93	.93	.....
600 30	Bright 5-Turns	.....	.86	.82	.82	.80

Rayflex Yarns

150 40-60	Rayflex	\$	\$	\$.85	\$.85	\$.81
200 75	Rayflex	.....	.....	.84	.84	.80
300 60-120	Rayflex	.....	.....	.75	.75	.73
450 120	Rayflex	.....	.....	.71	.71	.69
600 234	Rayflex	.....	.....	.71	.71	.69
900 350	Rayflex	.....	.....	.80	.71	.69

Spun Dyed Yarns

Denier	Type	Cones/Tubes Beams/Spools
75	Regular Strength	\$1.71
100	Regular Strength	1.35
150	Regular Strength	1.17
200	Regular Strength	1.14
300	Regular Strength	1.09
450	Regular Strength	1.05
600	Regular Strength	1.05
900	Regular Strength	1.05
300	High Strength	1.11
450	High Strength	1.06
900	High Strength	1.06

Avicron Yarns

Denier	Filament	Avicron Yarns	Cones/Tubes Beams/Spools
1800	100-200	Singles & 2 Ply	\$61
2700	150-300-980	Singles & 2 Ply	.58
2700	980	Singles 5 TPI	.61

Viscose Filament Yarns

The following material deposit charges are required:			
Metal Section Beams	.....	\$170.00 each	
Metal Section Beam Racks	.....	75.00 each	
Metal Tricot Spools—14" flange	.....	30.00 each	
21" flange	.....	80.00 each	
32" flange	.....	150.00 each	
Metal Tricot Spool Racks—14" flange	.....	135.00 each	
21" flange	.....	100.00 each	
32" flange	.....	75.00 each	
Wooden Tricot Spool Crates	.....	20.00 each	
Cloth Cake Covers	.....	.05 each	

Same to be credited upon return in good condition—freight collect.

Celanese Fibers Company

Effective October 12, 1960

Viscose Rayon Filament Yarn Prices—Bright and Dull

Denier/Fil/Twist	Beams	Cones	Cakes
75/30/2Z	1.11		
75/30/3	1.11	1.10	.98
100/40/2Z	.97		
100/40/3	.97	.96	.88
100/40/5		1.02	.95
100/80/2Z	NS	.96	
100/60/3		.98	.90
125/40/2Z		.95	
125/40/3		.94	.87
150/40/0	NS	.74½	
150/40/2Z		.81	
150/40/3		.81	
150/40/5		.79½	.76
150/40/8		.90	.86
150/40/10		.95	.91
150/90/0	NS	.98	.94
150/90/3		.77½	
250/60/0	NS	.74	
250/60/3		.80	.77
300/50/0	NS	.70	
300/50/2Z		.72	
300/50/3		.72	
450/60/0	NS	.68	.69
450/60/3		.70	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U. S. A.

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlabeled items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Effective December 11, 1960

Bright and Dull

Den.	Fil.	Turns/ Inch Up to	Textile "Cordura"	Beams	Cones (A) Tubes	Cakes
40	20	3	Textile "Cordura"		\$1.97	\$1.92
50	20	3	Textile "Cordura"		1.72	1.67
50	35	3	Textile "Cordura"		1.77	
75	30	3		\$1.14	1.14	1.02
100	40	3	Bright	.98	.98	.90
100	60	3	Dull		1.00	.92
125	50	3		.96	.96	.87
150	40	3		.82	.82	.78
150	60	3	Bright		.82	.78
150	60	3	Textile "Cordura"		.875	.845
150	90	3	Dull		.83	
150	100	3	Dull		.83	
300	50	2.5		.73	.73	.71
300	120	3	Textile "Cordura"	.74	.74	.72
450	72	3		.71	.69	.67
600	96	3	Bright	.71	.69	.67
600	240	3	Textile "Cordura"	.72	.70	
900	50	3	Bright	.71	.69	.67
900	144	3	Bright	.71	.69	.67
2700	150	3	Bright	.71	.69	

Thick and Thin

100	40	3	#7 Bright		1.42
150	90	3	#7 Bright		1.08
200	80	3	#7 Bright		1.08
450	100	3	#7 Bright		.92
1100	240	3	#60 Bright		1.03
2200	480	3	#60 Bright		.98

Plush

300	30	3	Dull		.85
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(A) 2¢/lb. additional for cones less than 3#.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

* "CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective June 29, 1959

Continuous Process Textile Yarns

Denier	Fila- ment	Turns per In.	Type	Beams	2.8# Cones	4.4# Cones and Tubes
150	40	2.5"S"	Dull	.82	.82	
150	40	2.5"S"	Bright	.82	.82	
200	20	2.5"S"	Bright	.81	.81	
300	44	2.5"S"	Bright	.73	.73	
450	60	2.0"S"	Bright	.69		.69
600	90	1.5"S"	Bright	.69		.69
900	50	2.0"S"	Bright	.69		.69
900	150	2.0"S"	Bright	.69		.69
1100	480	2.0"Z"	Bright extra strong	.66		.66

Lustre #4 is semi-dull.

Prices are subject to change without notice.

Strawn Monofilament

Denier	Fila- ment	Turns per In.	Type	4.4# Cones	Spools and Tubes
450	1	0	Bright and Dull	1.00	1.05
450	1	2	Bright and Dull	1.00	1.05
1250	1	0	Bright and Dull	1.00	1.05
1250	1	2	Bright and Dull	1.00	1.05

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.

Prices are subject to change without notice.

North American Rayon Corp.

Current Prices

Denier/Filament	Twist	Knitting* Cones	No Twist Knitting Cones	Weaving Cones, Velvet Cones, Beams, Tubes**	Untreated Cakes
Yarns — NARCO					
75/30	3.5			1.14	1.02
75/30	7			1.27	
75/30	12			1.35	
75/30	15			1.37	
75/30	20			1.40	
100/40/60	3.5			.98	.90
100/40	12			1.22	
125/25/60	10			.96	.87
150/42	0		.74½	1.13	
150/42/60	3	.80½		.82	.78
300/75	0		.71		
300/75	3	.73		.73	.71
900/46	2.5	.69		.69	
1800/92	2.5	.69		.69	

* Oiled Cones \$.01 per pound extra for Graded Yarns only.

** 1 lb. Tubes \$.02 per pound extra for Graded Yarns only.

Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

**NO YARN TRAPPING WITH
BRAZED ALUMINUM TWO POUND TAKE-UP BOBBIN**



New aluminum take-up bobbin with barrel and heads brazed together into a single unit prevents yarn trapping. Exceptional strength at price no higher than ordinary bobbins.

Write us today for full details.



ALLENTOWN BOBBIN WORKS, INC.
ALLENTOWN PENNSYLVANIA

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you're looking for something else*



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LAMBERTVILLE THREAD GUIDES

have accumulated a vast store of experience in ceramic guide manufacture. We believe it helps explain why Lambertville guides are unsurpassed in smoothness, hardness, and uniformity. Available in white or 'Durablu' finish. Write for catalog and samples.

Lambertville Ceramic
AND MANUFACTURING COMPANY
LAMBERTVILLE, NEW JERSEY

LAMBERTVILLE: YOUR GUIDE TO BETTER OPERATIONS!



**Leading Garnetters & Textile Mills
SIMPLIFY CUTTING OF THREAD
WASTE with "GIANT" CUTTERS**

GIANT Thread Waste Cutters have been designed by Taylor-Stiles Engineers working closely with leading garnetters and textile mills. As a result, GIANT Cutters include the features most desired by the industry. Features such as (1) Uniform feed, (2) Freedom from jamming, (3) Instant change of length of cut, (4) Cutting of synthetics without fusing, (5) Efficient shear cutting with lower power consumption, (6) Ability to cut most synthetics, man-made or natural fibers easily, (7) Capacities up to 3000 lbs./hr., (8) Easy accessibility to all parts.

All these are backed by Taylor-Stiles technical assistance and know-how developed by 98 years experience in building GIANT Cutters, "giants" for wear and "giants" in production. Return the coupon or call today for more information.

TAYLOR, STILES & COMPANY

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INDUSTRIAL CUTTING EQUIPMENT FOR PLASTICS, RUBBER, TEXTILE,
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GIANT Thread
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- ☐ I would like more information on your free sample cutting services.
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NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

TRIACETATE

Celanese Fibers Company

Current Prices Arnel Yarn Prices
Bright & Dull

Effective August 19, 1958

Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/LTDZ/15	\$.92	\$1.20	\$.92
55/2Z/15	1.32	1.33	1.32
75/LTDZ/20	1.21	1.16	1.22
75/2Z/20	1.14	1.22	1.14
100/2Z/26	.95	1.15	.95
150/2Z/40	.92	.93	.92
200/2Z/52	.87	.88	.87
300/2Z/80	.86	.87	.86
450/2Z/120	.85	.86	.85
600/2Z/160	.85	.86	.85

3 to 5 Turns on Cones or Beams—\$.02 Additional
Premium for Black Arnel—\$.25 Per Pound
Premium for Navy Arnel—\$.37 Per Pound
Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp. Effective February 6, 1961

Industrial Yarn Prices
Prices Subject To Change Without Notice

	Denier/Filament	Beams	Cones
TYREX (ENKA—5000)	1100/720	.57	.595
	1650/1100	.51	.535
	2200/1440	.48	50.5
	3300/2160	.48	50.5
TYREX FABRIC (ENKA—5000)	1100/720	.69	.69
	1650/1100	.60	.60
	2200/1440	.57	.57
SUPRENKA M	1230/720	.57	.595
	1600/1100	.53	.555
	1800/1100	.51	.535
	1870/1100	.51	.535
	2200/1440	.48	50.5
	2400/1440	.48	50.5
	3300/2160	.48	50.5
	3650/2160	.48	50.5
SUPRENKA MS	1100/720	.57	.595
	1650/1100	.51	.535
	2200/1440	.48	50.5
	2200/1440 (5.5Z)	.505	.53
	3200/2160	.48	50.5
TEMPRA 2000—MECHANICAL AND CHAFER	1100/480	.56	.585
	1230/480	.56	.585
	1650/720	.50	.525
	1820/720	.50	.525
	2200/960	.47	49.5
	3300/2160	.47	49.5
	1130/480 (5.0Z)	.60	.60
TEMPRA 2000—SEWING YARN	1230/480	.62	.62
	1750/720	.52	.52
	1820/720	.51	.51
HIGH TENACITY	300/40, 300/120	.75	.75
	900/120	.71	.71
REGULAR TENACITY	100/40	.98	.98

American Viscose Corp.

Effective February 9, 1961

Tyrex* Rayon Tire Yarn				
Denier	Filament	Twist	Beams	Cones
1100	980	O	.57	.595
1100	980	Z	.57	.595
1650	1500	O	.51	.535
1650	1500	Z	.51	.535
2200	1500	O	.48	.505
3300	3000	O	.48	.505

Tyrex* Rayon Tire Fabric				
Denier	Filament	Carcass	Top Ply	Breaker
1100	980/2	.69	.69	.69
		Factor Open-325	300-400	115-272
1650	1500/2	.60	.61	.635
Factor—determined by dividing total ends by picks. * Tyrex—Trademark of Tyrex Inc.				

Rayon Tire Yarn Yarn High Strength

Unslashed					Slashed	
Denier	Filament	Twist	Beams	Cones	Beams	Cones
1100	490	O	.56	.585	.56	.585
1150	490	Z	.56	.585	.56	.585
1650	980	Z	.50	.525	.50	.525
1650	980	O	.50	.525	.50	.525
1875	980	Z	.50	.525	.50	.525
2200	980	O	.47	.495	.47	.495

Super "Rayflex"

Type 120	1800	1500	O	.535	.48	.505
4400	3000	O				

Chafer Yarn

1100/490 High Strength 5Z Twist .60 .60

Adhesive Dipped Yarn or Cord

.06 PREMIUM
Cord on cones in regular Tire Yarn twists same as fabric prices.
Other twist combinations—prices quoted on request.
Special packages take premiums indicated:
4.0 oz. Wardwell Tubes .20
10.5 oz. Wardwell Tubes .10
1.5 lb. Regular Braided Tubes .06
3.5 lb. Tubes .045

Single Yarn—Based on cone price.
Piled Yarn—Based on fabric price.
All yarns sold "Not guaranteed for dyeing"
The following deposit charges are made on invoices:
Beams \$55.00 each
Crates (Metal) 75.00 each
Fabric Shell Rolls 3.50 each
Same to be credited upon return in good condition freight collect.

Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of the Mississippi River, in which event the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.

Price subject to change without notice.
Inferior Yarns—Designated HS-SR .06 Below First Quality Price
Skein Yarn .04 Above First Quality Price
Adding 6 Turns to "O" Twist Yarn .05

"Avisco" Industrial Sewing Thread

Effective March 1, 1961

Denier	Filament	Description	Twist	Package	Price
1100	980	Super "Rayflex" 120	O	9 lb. cone	.64
1100	980	Super "Rayflex" 120	2Z	4 lb. cone	.64
1500	980	Super "Rayflex" 120	O	9 lb. cone	.59
1500	980	Super "Rayflex" 120	2Z	4 lb. cone	.59
1780	1500	Super "Rayflex" 120	O	9 lb. cone	.55
1780	1500	Super "Rayflex" 120	2Z	4 lb. cone	.55

Domestic freight prepaid.
Prices subject to change without notice.

Celanese Fibers Company

Effective December 27, 1955

Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	\$3.00 lb.	\$3.35 lb.
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120	4 " "	2.25 "	2.60 "
120/2.5/160	4 " "	2.05 "	2.40 "
150/2.5/180	4 " "	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 "	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Fortisan-36 Rayon Yarn Bright

Denier and Filament	Twist	4# cones	8# cones	Tubes	Beams
270/280	0.8Z	\$2.30			
300/280	0.8Z	\$2.05			
300/280	3Z	\$2.20			
400/400	0.8Z	\$1.75			\$1.70
400/400	0			\$1.75	
800/800	0.8Z	\$1.25	\$1.25		\$1.20
800/800	3Z	\$1.40			
1600/1600	0.8Z	\$1.15	\$1.15	\$1.25	\$1.10
1600/1600	2 1/2 Z	\$1.30			
1600/1600	0			\$1.15	

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices Effective March 29, 1961

"Super Cordura"

Den Fil	Turns/in	Beams	Cones
1100-720	2	.57	.595
1200-720	2		.595
1530-960	2		.570
1600-960	2		.555
1650-1100	2	.51	.535
1800-1100	2	.51	.535
2200-1440	2	.48	.505
2400-1440	2	.48	.505

Terms: Net 30 Days.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.
* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corporation

Effective October 26, 1960

Unbleached Bright High Tenacity Yarns

Single End Beams and Cones—Type 100

Denier	Filament	Turns per Inch	Cones	Beams
1100	480	2.0 "Z"	.565	.54
1150	480	2.0 "Z"	.565	.54
1650	720	2.0 "Z"	.505	.48
1700	720	2.0 "Z"	.505	.48
2200	1000	2.0 "Z"	.495	.47
3300	1440	2.0 "Z"	.495	.47

Tyrex

Tyrex Certified Viscose Tire Yarn

Denier	Filament	Twist	Cones	Beams
1100	720	Z	.595	.57
1650	1100	Z	.535	.51

Terms: Net 30 days f.o.b. point of shipment, title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points in continental United States except Alaska.

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

North American Rayon Corporation

Current Prices

Super Super High Strength

Continuous Yarn Type 710

	1.6Z	2.0Z	Cones	Beams
1100/720			.57	.57
1650/720/1100			.51	.51

Tire Cord Fabrics

Super Super High Strength Type 710

	1100/720	1650/720	Rolls
	.69	.60	

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

Prices are subject to change without notice.

CELLULOSIC STAPLE & TOW

ACETATE

Celanese Fibers Company

Effective March 2, 1959

Staple

(Most Deniers Available in Bright or Dull Luster)

Celanese Acetate Staple	
3, 5.5 & 8 Denier	
(Regular Crimp, Type HC, Type D)	\$.36
2, 12 & 17 Denier	
(Regular Crimp, Type HC, Type D)	.37
35 Denier	.38
50 Denier	.40
Type F—5.5 & 8 Denier	.35
Type F—12 & 17 Denier	.36
Type K—(Available under Celanese License Agreement)	.39
% to % length (All Deniers)	.03 (Premium)
35 Denier Flat Filament Acetate	.40
Non-Textile Acetate Fibers	.29*

Tow (Celatow)

3, 5.5 & 8 Denier	\$.37
2, 12 & 17 Denier	.38
35 Denier	.40
50 Denier	.42
35 Denier Flat Filament Acetate Tow	.42

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point.)

Note: Prices on unlisted items can be obtained upon request. Orders are subject to conditions of sale appearing on our acknowledgments of orders.

RAYON

American Viscose Corp.

Current Prices

Rayon Staple

	Bright and Dull
Regular	\$.38
"Viscose 22"	.38
1.25 Denier	.31
All Other Deniers	.38
Hi-Crimp	.38
Bleached Crimp	.318
1.5, 3.0 Denier	
Smooth	
8.0 & 15.0 Denier Smooth	.30
22.0 Denier	.32
Bleached	.33
Extra Strength	
0.75 Denier	.40
1.0 Denier	.35
XL	
1.0 Denier	.40
1.5, 3.0 Denier	.37
XLI	.34
Fiber 40	
1.0 Denier	.43
1.5 Denier	.40

Spun Dyed Black Staple

1.5, 3.0, 5.5 Denier	.37
15.0 Denier crimped	.40

Prices of other colors on request.

Tow

1.5, 3.0, 5.5 Denier	.35
9.0 Denier	.37
15.0, 20.0 Denier	.38
Color spun black tow	.43

American Enka Corp.

Current Prices Effective April 1, 1960

Rayon Staple

Regular Crimp

	Brt.	Dull
1.5 and 3 denier	\$.28	\$.28
High Crimp		
4.5 denier	.28	.38
6.5 denier	.28	.38
8 denier	.28	.38
15 denier	.28	.38

Celanese Fibers Company

Effective May 1, 1959

Rayon Tow

Bright & Dull

1.5, 3, 5.5 D.P.F.	.35
Total denier 200,000	
8 D.P.F.	.37
Total denier 207,000	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

Courtaulds (Alabama) Inc.

Rayon Staple

	Bright	Dull
Regular Rayon Staple Fiber	\$.28	\$.28
Crimped Rayon Staple		
High Crimped Rayon Staple Fiber	.28	.28
Coloray® Solution Dyed Rayon Staple		

Color Price per lb.

Black	\$.32
Oyster	\$.36
Silver Grey	\$.41
Mocha	\$.41
Tan	\$.41
Medium Brown	\$.41
Pumpkin	\$.41
Aqua	\$.42
Rose	\$.42
Dawn Pink	\$.42
Ecu	\$.42
Dark Brown	\$.42
Gold	\$.45
Lilac	\$.45
Slate Grey	\$.45
Sulphur	\$.46
Nugget	\$.46
Light Blue	\$.46
Crystal Blue	\$.47
Apple Green	\$.47
Sage	\$.47
Peacock Blue	\$.48
Medium Blue	\$.50
Indian Yellow	\$.51
Dark Blue	\$.51
Hunter Green	\$.51
Turquoise	\$.52
Malachite Green	\$.53
Red	\$.58

In addition to the above, Black is also available in:

1½ den. 1½"	5½ den. 3"
3 den. 1½"	5½ den. 6"

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

Corval® Cross Linked Rayon

Man-made, cross-linked, regular or crimped cellulosic staple, semi-dull and dull

\$.37 per lb.

Topel® Cross-Linked Rayon

Man-made, cross-linked, cellulosic staple, semi-dull and dull

\$.37 per lb

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

The Hartford Fibres Co.

Div. Bigelow-Sanford, Inc.

Rayon Staple

Effective October 20, 1960

	1.5 & 3.0 denier Bright & Dull, 1-9/16", 2"
Regular	.28
White (Crimped)	
8 denier 3" Bright	.38
15 denier 3" Bright	.38
15 denier 3" Dull	.38

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	.39	.39	
Sandalwood	.39	.39	
Nutria	.39	.39	
Sea Green	.39	.39	
Mint Green	.39	.39	
Champagne	.39	.39	
Midnight Black	.39	.39	.39
Gold	.39	.39	

Turquoise	39	39	....
Meion	39	39	....
Capri Blue	39	39	....
Charcoal Grey	39	39	....
Coco	39	39	....
Sable	39	39	....
Tangerine	59	59	....
Chinese Red	59	59	....
Larkspur Blue	39	39	....
Royal Blue	59	59	....
Lemon Peel	48	48	....
Kelly Green	45	45	....
Bitter Green	59	59	....
Brazil	39	39	....
Redwood	39	39	....
Frost Green	39	39	....
Mist Grey	39	39	....
Medium Brown	39	39	....
Dark Brown	39	39	....
Woodtone	39	39	....
Antique Gold	39	39	....
Hunter Green	39	39	....

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

"Zantrel Polynosic" Rayon

Effective August 14, 1959

Man-made, cellulosic staple.

Semi-Bright, 1 denier, 1 9/16"	\$45 per lb.
1 1/2 denier, 1 9/16" and 1 9/16"	.42 per lb.
3 denier, 1 9/16" and 2"	.42 per lb.

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

North American Rayon Corporation

Current Prices

Rayon Staple

Super High Tenacity	Bright
No. 1 (Unshrunk)	
1, 1.5 & 2.3 deniers	.40
No. 2 (Preshrunk)	
1, 1.5 & 3 deniers	.40

Rayon Tow

High Tenacity	
2200/2600	.52
2200/2000	.525
4400/2000	.475
4400/2934	.475
6000/2934	.425

"Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

TRIACETATE

Celanese Fibers Company

Current Prices Effective June 7, 1957

(Most Deniers Available in Bright or Dull Luster)

Arnel Staple and Tow

Arnel Triacetate Staple	Bright & Dull
2.5 Individual Denier	.55
5.0 Individual Denier	.55
Arnel Triacetate Tow	
2.5 Individual Denier	.60
114,000 Total Denier	
5.0 Individual Denier	.60
90,000 Total Denier or	
180,000 Total Denier	
Packaged on Ball Warps	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

NON CELLULOSIC YARN

NYLON

Allied Chemical Corporation

Caprolan®

Current Yarn Prices: Effective May 1, 1960

Denier	Fila-ment	Turn/In.	Twist	Type**	Package	1st Grade Price/Lb.
140	16	1 1/2	Z	B	Cones*	\$1.60
140	16	1 1/2	Z	B	Beams*	1.65
200	16	1 1/2	Z	B	Cones*	1.40
200	16	1 1/2	Z	B	Beams	1.54
200	32	3/4	Z	B	Bobbins	1.49
200	32	3/4	Z	B	Beams	1.54
210	32	1	Z	HB	Bobbins	1.49
260	16	1	Z	HB	Bobbins	1.49
420	64	1/2	Z	HBT	Bobbins	1.39
420	64	1/2	Z	HBT	Beams	1.44
520	32	1	Z	B	Bobbins	1.39
520	32	1	Z	B	Beams	1.44
840	136	1/2	Z	HBT	Al. Tubes	0.94
840	136	1/2	Z	HBT	Beams	0.92
1680	272	1/2	Z	HBT	Al. Tubes	0.94
1680	272	1/2	Z	HBT	Beams	0.92
1050	56	1/2	Z	B	Al. Tubes	1.15
2100	112	1/2	Z	B	Al. Tubes	1.11

4200	224	0	O	B	Paper Tubes*	1.10
2100	408	0	O	HB	Paper Tubes*	0.97
2500	408	0	O	HB	Paper Tubes*	0.97
3360	544	0	O	HB	Paper Tubes*	0.96
4200	680	0	O	HB	Paper Tubes*	0.96
5000	816	0	O	HB	Paper Tubes*	0.96
5800	952	0	O	HB	Paper Tubes*	0.96
7500	1224	0	O	HB	Paper Tubes*	0.95
10000	1632	0	O	HB	Paper Tubes*	0.95
15000	2448	0	O	HB	Paper Tubes*	0.95

Terms—Net 30 days.

Price subject to change without notice.

Bobbins are invoiced at 45¢ ea.

Aluminum Tubes are invoiced at 40¢ ea.

Beams are invoiced at \$220.00.

Cradles for beams are invoiced at \$53.00.

* Paper Tubes and Cones non-returnable, no charge.

** Type is used to describe luster and tenacity.

All prices quoted F.O.B. Shipping Point.

Minimum transportation charges allowed and prepaid in Continental United States, excluding Alaska.

American Enka Corporation

Enka Nylon Prices

Effective March 21, 1961

Denier/Mono Filament	Luster	Twist	Pack- age	Price Per Pound Stand- ard	Sub- standard
15/1	SD or D	0.5Z	Pirns	3.89	3.69
15/1	SD or D	0.5Z	Spools	4.00	
20/1	SD	0.5Z	Pirns	3.53	3.30
20/6	SD	0.5Z	Pirns	2.91	2.61
20/6	SD	0.5Z	Spools	3.02	
20/6	Dull	0.5Z	Pirns	2.96	2.61
20/6	Dull	0.5Z	Spools	3.07	
30/1	SD	0.5Z	Pirns	4.13	3.93
30/6	SD	0.5Z	Pirns	2.36	2.21
30/6	SD	0.5Z	Spools	2.46	
40/8-13	SD	0.5Z	Pirns	2.01	1.91
40/8-13	SD	0.5Z	Spools	2.11	
40/13	SD-B de B*	0.5Z	Pirns	2.10	2.00
40/13	Dull	0.5Z	Pirns	2.06	1.96
40/13	Dull	0.5Z	Spools	2.16	
50/13	SD	0.5Z	Pirns	1.91	1.76
50/13	SD	0.5Z	Spools	2.01	
50/13	SD-B de B*	0.5Z	Pirns	2.00	1.85
50/13	SD-B de B*	0.5Z	Spools	2.10	
70/16-32	B or SD	0.5Z	Pirns	1.71	1.66
70/32	SD-B de B*	0.5Z	Pirns	1.80	1.75
100/32	SD	0.5Z	Pirns	1.65	1.60
100/32	SD-B de B*	0.5Z	Pirns	1.74	1.69
140/24	Bright	1.5Z	Cones	1.60	1.55
140/24	Bright	1.5Z	Beams	1.65	
140/32-64	SD	0.5Z	Pirns	1.60	1.55
140/32-64	SD-B de B*	0.5Z	Pirns	1.69	1.64
200/16-32	Bright	0.5Z	Cones	1.49	1.44
200/16-32	Bright	0.5Z	Beams	1.54	
200/16-32	Bright	1.5Z	Cones	1.49	1.44
200/16-32	Bright	1.5Z	Beams	1.54	
200/32	SD-B de B*	0.5Z	Cones	1.58	1.53
200/16-32	Bright	0.5Z	Cones	1.49	1.39
400/64	Bright	0.5Z	Cones	1.39	1.29
520/32	Bright	0.5Z	Cones	1.39	1.29
1040/68 Enkatron**	SD	0.5Z	Cones	1.30	1.20
1230/68 Enkatron**	SD	0.5Z	Cones	1.30	1.20
840/140	BHT	0.5Z	Cones	.94	.92
840/140	BHT	0.5Z	Beams	.92	

* Blanc de Blancs = Enka Trademark White of Whites.

** Enkatron = Enka Trademark Multilobal Yarns.

* Luster: B—Bright; H—High Tenacity; T—Heat Stabilized; SD—Semi-Dull; D—Dull; *SD-B de B.

Firms invoiced at 25¢ or 45¢ each, depending on type. Deposits refunded upon return of pirns in good condition. Cones are not returnable. Spools, Beams and Racks are deposit carriers and remain the property of American Enka Corporation.

Terms: Net 30 days from date of invoice. Minimum common carrier transportation charges will be prepaid and absorbed to first destination in the continental limits of the United States excluding Alaska and Hawaii. In prepaying transportation charges, seller reserves the right to select carrier used.

All prices subject to change without notice.

*B de B—Blanc de Blancs—White of Whites Color.

The Chemstrand Corp.

Current Prices Effective January 1, 1960

Denier	Fila-ment	Twist	Type	Package	Standard Price/lb.	Second Price/lb.
10	1	O	SD	Bobbins	\$7.16	\$6.56
15	1	O	RSD	Bobbins	3.89	3.69
15	1	O	RSD	Spools	4.00	
15	1	O	Dull	Bobbins	3.89	3.69
15	1	O	Dull	Spools	4.00	
20	7	Z	RSD	Bobbins	2.91	2.61
20	7	Z	RSD	Spools	3.02	
30	10	Z	RSD	Bobbins	2.36	2.21
30	26	Z	RSD	Bobbins	2.49	2.21
40	10	Z	RSD	Bobbins	2.01	1.91
40	13	Z	RSD	Bobbins	2.01	1.91
40	13	Z	RSD	Spools	2.11	
40	13	O	RSD	Draw Wind	2.01	1.91
40	13	Z	Dull	Bobbins	2.06	1.96
40	13	Z	Dull	Spools	2.16	
40	13	O	Dull	Draw Wind	2.06	1.96
50	17	Z	RSD	Bobbins	1.91	1.76
50	17	O	RSD	Draw Wind	1.91	1.76
50	17	Z	Brt.	Bobbins	1.91	1.76
70	20	Z	RSD	Bobbins	1.71	1.66
70	34	Z	RSD & SD	Bobbins	1.71	1.66
70	34	O	RSD & SD	Draw Wind	1.71	1.66
70	34	Z	Brt.	Bobbins	1.71	1.66
70	34	O	Brt.	Draw Wind	1.71	1.66
70	34	Z	HB	Bobbins	1.76	1.66

New Riordan Vice Presidents

Cecil E. MacDonald and Donald F. McCall have been appointed vice presidents of Riordan Sales Corp., Ltd., according to a recent announcement by C. E. F.



C. C. MacDonald

D. F. McCall

Jones, president. Riordan Sales Corp., a subsidiary of Canadian International Paper Co., is responsible for marketing the dissolving and paper pulps produced by that company and International Paper Co.

MacDonald, a graduate in chemical engineering from McGill University, joined Canadian International Paper Co. in the newsprint manufacturing department in 1946. He transferred to Riordan Sales Corp. in 1958. McCall, a graduate of Dartmouth, after several years executive experience in the pulp and paper industry both in the East and on the West Coast, joined International Paper Co. in May, 1960.

INDUSTRIAL ENGINEERS

- * MODERNIZATION PROGRAMS
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- * WORK LOAD STUDIES
- * MANAGEMENT PROBLEMS
- * SPECIAL REPORTS

GREENVILLE, S. C.
Dial Cedar 2-3868
FALL RIVER, MASS.
Dial Osborne 6-8261

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Ralph E. Loper Co.

ALLEN BEAM COMPANY

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Beams for all makes of
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Adjustable Loom Beam Heads

"Good Warps are made on Good Beams"

PLEASANT DREAMS



ENFOLD THE SPINNER
... WHOSE RINGS ARE

DIAMOND FINISH

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SPINNING RING CO.
Makers of Spinning and Twister Rings since 1873

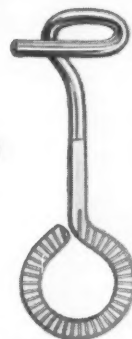
Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.
Rep. for Ala., Ga. & Tenn.: H. L. WILLIAMS, Box 222, West Point, Ga.

Specify

COLLINS "IRRIDIOR"

THREAD GUIDES

*the finest in
Hard Chromium Plated Work!*



For over 35 years—Collins, fortified with the technique and production facilities, has pioneered in the production of wire work to suit the growing needs of the textile industry.

And today, Collins "Irridior" Thread Guides are "tops" in the processing of Nylon and Rayon threads—because "Irridior" means harder, denser chrome-plating designed to last longer.

"For those who prefer Matte or Sandblast finish, try our Irridior Matte Finish F75."

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1357-97 Monsey Ave. Scranton 2, Pa.
Southern Rep.: Matthew Topkins
P. O. Box 91, Guilford College, N. C.

70	34	O	HB	Draw Wind	1.76	1.66
80	26	Z	RSD	Bobbins	1.76	1.66
100	26	Z	RSD	Bobbins	1.65	1.60
100	34	Z	RSD	Bobbins	1.65	1.60
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	Brt.	Bobbins	1.60	1.55
200	34	Z	Brt.	Bobbins	1.49	1.44
200	34	O	Brt.	Draw Wind	1.49	1.44
200	34	Z	Brt.	Spools	1.54	1.44
200	68	Z	RSD	Bobbins	1.56	1.46
210	34	Z	HB	Bobbins	1.49	1.44
210	34	O	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	1.44
210	34	Z	HB	Beams	1.54	1.44
210	34	Z	RHB	Bobbins	1.49	1.44
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Beams	1.54	1.44
420	68	Z	HB	Bobbins	1.39	1.29
520	34	Z	HB	Bobbins	1.39	1.29
780	51	Z	HB	Tubes	1.39	1.29
840	140	Z	HB	Tubes	.94	.92
840	140	Z	HB	Beams	.92	.90
840	140	Z	RHB	Tubes	.94	.92
840	140	Z	RHB	Beams	.92	.90
840	140	Z	RHB	Cones	.95	.93
840	140	Z	HB	Paper Tubes	.94	.92
840	140	Z	RHB	Paper Tubes	.94	.92
840	140	Z	RHB	Textile Grade—W.W.	1.06	.92
840	140	Z	HB & RHB	Raschel Spools	1.00	.90
1680	280	Z	RHB	Tubes	.94	.90
1680	280	Z	RHB	Beams	.92	.90
1680	280	Z	RHB	Cones	.95	.91

Cumuloff®

520	34	Z	RB	Tubes	2.05	1.95
1040	68	Z	RB	Tubes	1.74	1.64
1230	68	Z	RSD	Paper Tubes	1.53	1.43
2080	136	Z	RB	Tubes	1.66	1.56
3690	204	S	RSD	Cones	1.47	1.37

Cadon™

15	1	O	Brt.	Bobbins	4.90	4.70
15	1	O	Brt.	Spools	5.01	4.81
70	34	Z	RSD	Bobbins	1.81	1.71
200	34	Z	RB	Bobbins	1.54	1.44
520	34	Z	RB	Bobbins	1.44	1.34
1040	68	Z	RB & RSD	Tubes	1.30	1.20
1230	68	Z	RSD	Tubes	1.30	1.20
2080	136	Z	RB	Tubes	1.26	1.16

* These counts also available in Warp Wind package at price shown for Bobbins.

* Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity. Bobbins are invoiced at 25¢ or 45¢, depending on type; tubes are invoiced at 40¢ each; spools invoiced at \$95.00, \$110.00, and \$115.00, depending on type; and beams and crates for beams are invoiced at \$220.00 and \$250.00 respectively.

Prices subject to changes without notice.

Freight prepaid within Continental United States and Puerto Rico.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
7-1	0	200	Bobbins	\$8.05	\$7.40
10-1	0	200	Bobbins	7.16	6.56
12-1	0	200	Bobbins	6.35	5.85
15-1	0	90	Bobbins	4.90	4.40
15-1	0	90	Beams	5.01	4.51
15-1	0	200	Beam	4.00	3.69
15-1	0	200/280	Bobbins	3.89	3.69
15-1	0	680	Beam	4.00	3.69
15-1	0	680	Bobbins	3.89	3.69
20-1	0	200/280	Bobbins	4.03	3.68
14-2	0.22	200	Bobbins	6.72	6.12
17-2	0.22	200	Bobbins	5.96	5.41
20-2	0.22	200	Bobbins	4.71	4.27
15-3	0.22	200	Bobbins	5.19	4.69
21-3	0.22	200	Bobbins	4.70	4.27
20-7	0.52	200	Bobbins	2.91	2.61
20-7	0.52	200	Beam	3.02	2.72
20-7	0.52	680	Bobbins	2.96	2.61
20-7	0.52	680	Beam	3.07	2.77
20-20	0.72	209	Bobbins	6.00	5.50
28-4	0.22	200	Bobbins	2.81	2.61
30-10	0.52	200	Bobbins	2.36	2.21
30-10	0.52	200	Tricot Bms.	2.46	2.26
30-10	0.52	300	Bobbins	2.51	2.36
30-10	0.52	680	Bobbins	2.41	2.21
30-10	0.52	680	Tricot Bms.	2.51	2.31
30-26	0.52	200/280	Bobbins	2.49	2.21
30-26	0.52	200/280	Tricot Beams	2.59	2.39
40-7	0.52	200	Bobbins	2.11	1.91
40-10	0.52	200/280	Bobbins	2.01	1.91
40-13	0.52	200	Tricot Beams	2.11	1.91
40-13	0.52	200	Tricot Bms.	2.11	1.91
40-13	0.52	400	Bobbins	2.13	1.90
40-13	0.52	680	Bobbins	2.06	1.96
40-13	0.52	680	Tricot Bms.	2.16	1.96
40-34	0.52	200	Bobbins	2.21	1.81
50-10	0.52	200	Bobbins	2.11	1.76
50-17	0.52	100/200	Bobbins	1.91	1.76
50-17	0.52	200	Tubes	2.01	1.76
60-34	0.52	300	Bobbins	1.86	1.76
60-20	0.52	200/280/288	Bobbins	1.82	1.65
70-17	0.52	200/288	Bobbins	1.71	1.66
70-34	0	100	Tubes	1.71	1.66
70-34	0	100/200/180	Tubes	1.71	1.66
70-34	0	105/205	Paper Tube	1.71	1.66
70-34	0	200/285	Tubes	1.71	1.66
70-34	0.52	280	Bobbins	1.71	1.66

70-34	0.52	288	Bobbins	1.71	1.66
70-34	0.52	300	Bobbins	1.76	1.66
70-34	0.52	680	Bobbins	1.76	1.66
70-34	0	680	Tubes	1.76	1.66
80-26	0.52	200	Bobbins	1.71	1.60
90-26	0.52	200/288	Bobbins	1.76	1.66
100-34	0.52	200/288	Bobbins	1.65	1.60
100-34	0.52	300	Bobbins	1.70	1.60
100-34	0	300	Tubes	1.70	1.60
100-34	0.52	680	Bobbins	1.70	1.60
100-50	0.52	200/288	Bobbins	1.71	1.60
110-50	0.52	200	Bobbins	1.71	1.60
140-68	0.52	100	Bobbins	1.60	1.55
140-68	0	200	Tubes	1.60	1.55
140-68	0.52	200/288	Bobbins	1.60	1.55
140-68	0.52	300	Bobbins	1.65	1.55
200-20	1Z	100	Bobbins	1.49	1.44
200-34	0	100	Tubes	1.49	1.44
200-34	0.72	100	Bobbins	1.49	1.44
200-34	0	105	Tube	1.49	1.44
200-34	0.72	680	Bobbins	1.54	1.44
200-68	0.72	100/200	Bobbins	1.56	1.46
210-34	0	300	Tubes	1.49	1.44
210-34	0.72	300	Bobbins	1.49	1.44
210-34	0.72	300	Beam	1.54	1.44
210-34	0	305	Tube	1.49	1.44
210-34	0.72	330	Bobbins	1.49	1.44
260-17	1Z	300/380	Bobbins	1.49	1.39
400-68	0.72	100	Bobbins	1.39	1.29
420-68	1Z	300	Bobbins	1.39	1.29
420-68	1Z	300	Beams	1.44	1.29
520-34	1Z	300/380	Bobbins	1.39	1.29
630-102	0.72	300	Bobbins	1.39	1.29
780-51	1Z	300/380	Bobbins	1.39	1.29
800-140	0.52	100	Bobbins	1.39	1.29

Nylon Filament "Antron"™ Yarn Prices

20-7	0.52	560 Bt.	Bobbins	3.06	2.76
20-7	0.52	560 S.D.	Bobbins	3.06	2.76
30-10	0.52	560 S.D.	Bobbins	2.46	2.21
40-13	0.52	560 Dull	Bobbins	2.16	2.06
40-13	0.52	560 S.D.	Bobbins	2.11	2.01
50-17	0.52	560 S.D.	Bobbins	2.01	1.86
70-34	0	565 S.D.	Paper Tube	1.81	1.76
70-34	0.52	560 S.D.	Bobbins	1.81	1.76
70-34	0	560 S.D.	DW Tube	1.81	1.76
200-20	0.72	560 Bt.	Bobbins	1.54	1.49
200-34	0.72	560 S.D.	Bobbins	1.54	1.49
200-34	0	565 S.D.	Paper Tube	1.54	1.49
520-34	1Z	560 Bt.	Bobbins	1.44	1.34
780-51	1Z	560 Bt.	Bobbins	1.44	1.34

* Antron is DuPont's registered trademark for its trilobal multi-filament nylon yarn.

Color-Sealed Black Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
30-10	0.52	140	Bobbins	\$2.71	\$2.56
40-13	0.52	140	Bobbins	2.36	2.16
70-34	0.52	140	Bobbins	2.06	2.01
100-34	0.52	140	Bobbins	2.00	1.95
200-20	0.72	140	Bobbins	1.84	1.79
200-34	0.72	140	Bobbins	1.84	1.79
280-20	1Z	140	Bobbins	1.84	1.79

INDUSTRIAL YARNS

Tire Quality

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
840-140	0.52	300/700	Aluminum Tube	.94	.92
840-140	0.52	300/700	Beam	.92	....
840-140	0.52	300/700	Raschel Beam	1.00	....
840-140	0.52	300/700	Cone, Paper Tube	.98	.92
1280-210	0.52	700	Beam	.92	....
1680-280	0.52	700	Aluminum Tube	.94	.92
1680-280	0.52	700	Beam	.92	....
1680-280	0.52	700	Cone, Paper Tube	.98	.92
Industrial Quality					
840-140	0.52	707	Cone, Paper Tube	.95	....
2520-420	0	700	Paper Tube	.97	....
3360-560	0	700	Paper Tube	.96	....
5040-840	0	707	Paper Tube	.99	....
5040-840	0	700	Paper Tube	.96	....
7560-1260	0	707	Paper Tube	.98	....
7560-1260	0	700	Paper Tube	.95	....
10080-1680	0	707	Paper Tube	.98	....
15120-2520	0	707	Paper Tube	.98	....

These prices are subject to change without notice. Terms: Net 30 Days.

Types

Type 90—Bright, normal tenacity, trilobal—cross section.
 Type 100—Bright, normal tenacity.
 Type 105—Bright, normal tenacity, low shrinkage (5-7%)
 Type 140—Bright, color-sealed, black, normal tenacity.
 Type 200—Semi-dull, normal tenacity.
 Type 205—Semi-dull, normal tenacity, low shrinkage (5-7%)
 Type 209—Semi-dull, normal tenacity, improved light durability and dye light fastness.
 Type 280—Semi-dull, normal tenacity, improved light durability and dye light fastness.
 Type 285—Semi-dull, normal tenacity, low shrinkage, improved light durability, and dye light fastness.
 Type 288—Semi-dull, normal tenacity, for Texturing.
 Type 300—Bright, high tenacity.
 Type 305—Bright, high tenacity, low shrinkage (5-7%)
 Type 330—Bright, high tenacity, more heat & light resistant.
 Type 380—Bright high tenacity, improved light durability and dye light fastness.
 Type 400—Semi-dull, high tenacity.
 Type 560—Luster as designated—Modified cross section. Improved light durability and dye light fastness.
 Type 565—Luster as designated—Modified cross section, low shrinkage. Improved light durability and dye light fastness.
 Type 680—Dull, normal tenacity.
 Type 700—Bright, high tenacity.
 Type 707—Bright, high tenacity cordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

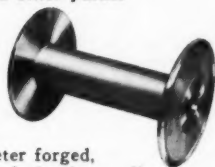
Following are invoiced as a separate item.

Bobbins—25 cents or 45 cents depending on type

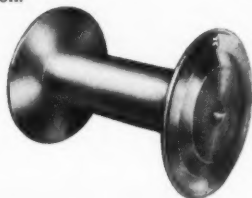
Call MILTON for dependable BEAMS

FORGED HEAD ALUMINUM ALLOY TRICOT & RASCHEL BEAMS

RUGGED in design . . . light in weight, with the big bonus of **SUPER STRENGTH**—for dependable service with nylon, rubber, acetate, rayon and other yarns.



13 3/4", 21" and 30" diameter forged, heat-treated aluminum alloy heads and extra heavy wall barrels become a one-piece beam by Milton's continuous weld process. Here is true dimensional stability without objectionable deflection or distortion.



STEEL BARREL WARP BEAMS

for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS



Shown above is Milton's stud construction (also made with cast iron hubs).

for C & K and Draper Looms



RIBBON LOOM BEAMS



Adjustable head with fixed shaft, or fixed head with removable shaft.

SEE THEM . . . BOOTH 735

MILTON MACHINE WORKS
INCORPORATED
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON • PENNA.

C. Gordon Jelliffe was elected president and chief executive officer of Columbus Coated Fabrics Corp., succeeding Henry A. Flaharty who will serve as chairman of the board.

James L. Morgan has been named president of Morgan Mills, Inc., succeeding his father, Edwin Morgan who will serve as chairman of the board.

Dr. Robert H. Reed has been appointed vice president-development of Solvay Process Division, Allied Chemical Corp.

Dr. Kurt John Winter has joined the faculty of the Philadelphia College of Textiles and Science as a guest lecturer in textile finishing.

Robert Rhodes, assistant secretary and director of W. F. Fancourt, has been transferred to Charlotte, N. C.

Louis E. Dequine, Jr., has been promoted to director of nylon manufacturing for The Chemstrand Corp., succeeding Fred G. Grone-meyer who has been named vice president and executive director of industrial development.

Lester T. Yeager has been promoted to general sales manager of Textile Machine Works, and William P. Porch has been appointed treasurer of the firm.

Dr. Fred Ebersole has been appointed manager-distribution and inventory control services, and Robert J. Hamilton manager-advertising and promotion, of the recently created marketing administration department of General Aniline & Film Corp.

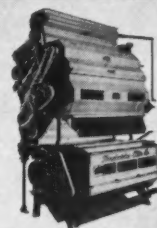
Dr. Clarence H. Buurman was named production manager of the firm's Linden Dyestuff Plant, reporting to John C. Lawler, recently appointed director of manufacturing of General Dyestuff Co., division of General Aniline & Film.

Deaths

Marshall Phelps, 61, sales development representative of the Fibers Division, Eastman Chemical Products, Inc., died on January 11.

Osborn Bezanson, former president and chairman of the board of The Chemstrand Corp. died on February 27. He was president of Chemstrand from March, 1951, until December, 1953, when he was elevated to chairman of the board, which position he held until March, 1955. He served with Monsanto Chemical Co. for 45 years before becoming president of Chemstrand.

George Norman Winder, 63, vice president of Woolens and Worsteds of America, Inc., died on February 21.



"WITH LUBRIPLATE LUBRICANTS—NO BEARING LOSS FOR AN ENTIRE SEASON"

so states a well-known manufacturer of Cotton Gin and Oil Mill Machinery

"We have gone to great expense in checking lubricating greases out in the field and find the best to be LUBRIPLATE. Over a season's test we found that out of all the greases tried LUBRIPLATE was the only one that did stand up under all operating conditions throughout a season's run without loss of a single bearing."

**REGARDLESS OF THE SIZE AND
TYPE OF YOUR MACHINERY,
LUBRIPLATE GREASE AND
FLUID TYPE LUBRICANTS WILL
IMPROVE ITS OPERATION AND
REDUCE MAINTENANCE COSTS.**

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.



For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



Aluminum Tube—40¢ each
 Draw Winder Tubes—\$1.00
 Industrial & Section Beams—\$220.00 each
 Racks for Industrial & Section Beams—\$50.00 each
 Tricot Beams—\$95.00 or \$250.00 each depending upon type
 Racks for Tricot Beams—\$70.00 or \$130.00 each depending upon type
 Raschel Beams—\$85.00 or \$100.00 each depending upon type
 Racks for Raschel Beams—\$70.00 each
 Tricot and Raschel Beams are billed at the above prices if not returned within 90 days from date of invoice.
 Section Beams are billed after 60 days, and Industrial Beams are billed after 60 days.
 (Beams and Racks are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"

Denier & Filament	Turns/Inch	Luster	Type*	Package	Tubes 1st Gr.
30-14	0	Bright	55	Tube	\$2.60
30-20	0	Semidull	56	Tube	2.60
40-27	0	Semidull	56	Tube	2.35
40-27	0	Bright	55	Tube	2.35
40-27	0	Dull	57	Tube	2.40
70-34	0	Semidull	56	Tube	1.97
70-14	0	Bright	55	Tube	1.97
70-34	0	Bright	55	Tube	1.97
70-34	0	Dull	57	Tube	2.02
100-34	0	Semidull	56	Tube	1.90
140-28	0	Bright	55	Tube	1.85
150-34	0	Semidull	56	Tube	1.85
220-50	0	Bright	51	Tube	1.76
250-50	0	Bright	55	Tube	1.76
1100-250	0	Bright	51	Core	1.50
1100-250	0	Bright	52	Core	1.50
1100-250	Ro2	Bright	52	Core	1.50
1100-250	Ro2	Bright	52	Beam	1.50

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the Continental limits of the U. S., excluding Alaska.

Yarn Types

* Type:

Type 51—Bright, high tenacity.

Type 52—Bright, high tenacity.

Type 55—Bright, normal tenacity.

Type 56—Semidull, normal tenacity.

Type 57—Dull, normal tenacity.

Tubes are invoiced as a separate item at \$.70 each.
 Industrial beams and cradles are billed if not returned within 60 days from date of invoice. They are then billed as separate items at \$220.00 per beam and \$50.00 per cradle and are returnable for credit.
 "DACRON" is DuPont's registered trade-mark for its polyester fiber.

SARAN

The National Plastics Products Company—Fibers Division Odenton, Maryland

Current Prices:

CONTINUOUS FILAMENT

Type	Twist p. l.	Natural	Colors
750/20*	3	1.75	1.80

* For filter fabrics and other industrial purposes only.

F.O.B. Odenton, Maryland.

Terms: Net 30 days.

NON CELLULOSIC STAPLE & TOW

ACRYLIC

American Cyanamid Co. Fibers Division

Effective Date: December 21, 1960

Cyanamid Acrylic Staple

2.0 Denier Bright and Semi-Dull	1st Grade Price (per pound)
3.0 Denier Bright and Semi-Dull	\$1.28
5.0 Denier Bright and Semi-Dull	1.22
15.0 Denier Bright and Semi-Dull	1.22
Staple Lengths: 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 4 1/2".	.95
Type WM—Designed for the woolen spinning system and is a blend of deniers (average 4) and length	.94
Type BC—Designed for blending with cellulosics and is 2 or 3 denier 1 1/2" semi-dull regular staple	1.08

Information provided on request for Deniers, Lengths and Lustres not listed above.

Prices are subject to change without notice.

Terms: Net 30 days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's route and method) within the continental limits of the United States excluding Alaska. If Buyer requests and Seller agrees to a route or method involving higher than minimum rate, Buyer shall pay the excess transportation cost.

Note: CRESLAN® is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.

The Chemstrand Corp.

"Acrlan"

Current Prices Effective January 1, 1961

Denier	Type	Regular Acrlan		Acrlan 16	
		Qual.	2nd Qual.	"A" Qual.	2nd Qual.
1.0	Staple	\$ 1.22	\$ 1.03	\$1.28	\$ 1.03
2.0	Staple	1.22	1.03	1.22	1.03
2.0	Tow	1.22	1.03	1.22	1.03
2.5	Hi-Bulk Staple	1.22	1.03	1.22	1.03

2.5	Hi-Bulk Tow	1.22	1.03	1.22	1.03
3.0	Staple	1.22	1.03	1.22	1.03
3.0	Tow	1.22	1.03	1.22	1.03
5.0	Staple	1.22	1.03	1.22	1.03
5.0	Tow	1.22	1.03	1.22	1.03
8.0	Staple	1.18	1.03	1.18	1.03
8.0	Tow	1.18	1.03	1.18	1.03
15.0	Staple	.95	....	.95	....
15.0	Tow	.95	....	.95	....

Staple and Tow available in Bright and Semi-Dull lustres.

Acrlan Spectran™

	Dark	Light
2.5 Staple	1.39	1.29
3.0 Staple	1.39	1.29
3.0 Tow	1.44	1.34

Acrlan Spectran—Staple and Tow available in Bright lustres only.

Dark—Black, Dark Blue, Brown, Dark Grey and Olive.

Light—Taupe, Gold, Beige and Light Grey.

Fiberfill	....	1.01	....
Types 77, 88 and 89 Staple	....	.97	....

TERMS: Net 30 Days.

F.O.B. shipping point, freight prepaid: seller to select and pay transportation charges of carrier to points within the continental limits of the United States, excluding Alaska.

* "Acrlan" is Chemstrand's registered trademark for its acrylic fiber.

The Dow Chemical Company

Textile Fibers Department Current Prices

"Zefran" Acrylic Staple

2.0 denier Semidull & Bright—Staple only	\$1.28
3.0 denier Semidull & Bright—Staple only	1.28
6.0 denier Semidull & Bright—Staple only	1.18
100% Blends of ZEFRAAN acrylic fiber (For the Woolen System)	
Type W-2 (average denier of about 2.5)	\$.99
Type W-4 (average denier of about 4.5)	.94

Terms: Net 30 days.

Transportation Terms: F.O.B. shipping point—Freight prepaid our route within the continental limits of the U. S., excluding Alaska.

* Registered trademark of The Dow Chemical Co.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Orlon" Acrylic Staple & Tow

Type 42	Staple Length	Tow Bids.	1st Grade
2.0 Denier Semidull & Bright	1 1/2", 2", 2 1/2", 3", 4"	470M	1.28
3.0 Denier Semidull & Bright	1 1/2", 2", 2 1/2", 3", 4"	470M	1.30
3.0 Denier Color-sealed Black	1 1/2", 2", 2 1/2", 3", 4"	470M	1.63
6.0 Denier Semidull & Bright	1 1/2", 2", 2 1/2", 3", 4"	470M	1.20
6.0 Denier Color-sealed Black	1 1/2", 2", 2 1/2", 3", 4"	470M	1.55
4.5 Denier Semidull	1 1/2", 2", 2 1/2", 3", 4"	470M	1.18
10.0 Denier Semidull & Bright	1 1/2", 2", 2 1/2", 3", 4"	470M	1.18
10.0 Denier Color-sealed Black	1 1/2", 2", 2 1/2", 3", 4"	470M	1.55

High Shrinkage Staple price as Regular Staple

Type 38 Semidull & Bright \$1.09

This product is designed for the pile-fabric trade and is a mixture of deniers (average about 3.0), 1 1/2" staple.

Type 39 Semidull \$.94

This product is designed for woolen system spinning and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A Semidull \$.99

This product is designed for woolen system spinning and is a blend of predominately fine deniers (average 2.5) with a variable cut length.

Type 39B Semidull \$.94

This product is designed for woolen system spinning and is a blend of predominately heavy deniers (average 6.5) with a variable cut length.

Type 72 Semidull \$1.08

This product is designed as a blending staple with cotton for skin-contact apparel type of fabrics and is a 1.5 denier, 1 1/2" semidull whitened staple.

Type 75 Semidull \$1.08

This product is designed for Cotton/Rayon System Spinning and is 2.5 denier, 1 1/2" semidull regular shrinkage staple.

"ORLON SAYELLE"***

Type 21

3.0 denier semidull variable (2 1/2" to 5" average 3 3/4") staple \$1.45

6.0 denier semidull variable (2 1/2" to 5" average 3 3/4") staple 4% M 1.40

F.O.B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

"ORLON" is Dupont's Registered Trade-mark for its Acrylic Fiber.

"ORLON SAYELLE"*** is Dupont's Registered Trade-mark for its bi-component Acrylic fiber.

MODACRYLIC

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

"Verel" Acrylic Staple and Tow

All items available in both bright and dull luster in standard lengths

Denier	Type A	Type B	Type C	Type D	Type HB	Type F	Type III
2	\$1.02	....	....	....	....	....	....
2.75	....	....	....	....	....	....	....
3	1.02	....	....	....	\$1.02	0.92	\$1.02
5	....	\$0.92	....	....	0.92	....	....
8	....	0.92	....	....	....	....	....
12	....	0.85	\$0.85	....	....	....	....
16	0.88	....	0.88	\$0.88	0.88	....	....
24	....	....	0.93	....	....	....	....

Type A—High crimp with good crimp retention

Type B—High crimp—less permanent than Type A

Type C—Medium crimp—nonpermanent—crimp easily removed

Type D—Low crimp—completely nonpermanent—fiber must be stabilized in dyeing

Type HB—Very high, very permanent crimp

Type F—Fiber with greater denier and length variation than other types

Type III—Controlled shrinkage fiber

Prices are subject to change without notice.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select

route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

* "Vere!" is a trade-mark of the Eastman Kodak Co.

Union Carbide Chemicals Co.

Div. Union Carbide Corp.

Textile Fibers Dept. Effective December 1, 1959

Dynel Staple & Tow

Natural Dynel	
2, 3, 6, 12 Denier, Staple and Tow	1.10 per lb.
Liner blend, Staple only	.92 per lb.
24 Denier, Staple and Tow	1.05 per lb.
12 Denier, Type 80, Staple and Tow	.85 per lb.
3 Denier Type 63, High Shrinkage, Staple and Tow	1.15 per lb.

Dynel Spun with Colors:

Blond, Pewter, Gray, Brown, Charcoal, Black	
3 and 6 Denier, Staple and Tow	1.20 per lb.
3 Denier Type 63, High Shrinkage, Staple and Tow	1.30 per lb.

Prices are quoted F.O.B. shipping point, freight prepaid our route, within continental limits United States, excluding Alaska and Hawaii.

NYLON

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	1st. Grade Price/Lb.	2nd Grade Only
1.5	200	1 1/2" - 4 1/2"	None made	\$1.33	\$1.18
1.5	201	1 1/2" - 4 1/2"	None made	1.35	1.20
2.3	420	1 1/2" only	None made	1.28	1.13
3.0	100/200	1 1/2" - 4 1/2"	430M	1.28	1.13
3.0	101/201	1 1/2" - 4 1/2"	455M	1.30	1.15
6.0	100	1 1/2" - 6 1/2"	330M	1.28	1.13
6.0	101	1 1/2" - 6 1/2"	345M	1.30	1.15
15.0	100	1 1/2" - 6 1/2"	425M	1.08	....
15.0	101	1 1/2" - 6 1/2"	None made	1.10	....
15.0	600	1 1/2" - 6 1/2"	425M	1.10	....
15.0	601	1 1/2" - 6 1/2"	None made	1.12	....

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows:

1 1/2, 1 3/4, 2, 2 1/2, 3, 4 1/2 and 6 1/2

Types

Type 100 Bright, normal tenacity, not heatset.
Type 101 Bright, normal tenacity, heatset.
Type 200 Semidull, normal tenacity, not heatset.
Type 201 Semidull, normal tenacity, heatset.
Type 420 Semidull, high tenacity, high modulus, no crimp.
Type 600 Dull normal tenacity, not heatset.
Type 601 Dull normal tenacity, heatset.
These prices are subject to changes without notice.
Terms—Net 30 Days.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

NYTRIL

Celanese Fibers Company

DARVAN

Effective Nov. 21, 1958

Type	Not Crimp Set	Crimp Set
3, 4 1/2 and 6 Denier	\$1.45	\$1.50
1 1/2, 2 Denier	\$1.50	\$1.55

Pack in 100 Lb. and 500 Lb. Bales, Net

Staple lengths 1 1/2, 2, 3, 4 1/2

Tow—90,000 Total Denier

Bright, Semi-dull, Dull

(Deniers and lengths of staple not listed above are available upon special request.)

Terms: Net 30 Days.

F.O.B. Shipping Point (Avon Lake, Ohio) Minimum freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if overland, or port of exit of purchaser's choice east of the Mississippi River.

OLEFIN

Beaunit Mills Inc.

Fibers Division Effective November 1, 1960

Polypropylene Bright Staple

Denier	Price per lb.
1.5	\$.90
3.0	.90
6.0	.90
15.0	.90

Staple cuts are 1 1/2", 2" and 3".

Other lengths are available on request.

Terms: Net 30 days F.O.B. shipping point. Minimum Freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices subject to change without further notice.

POLYESTER

Beaunit Mills Inc.

Vycron Polyester

Current Prices

Denier	Price Per Lb.
1.5	\$1.00
3.0	1.00
6.0	1.00
15.0	1.00
Tow for Converters	1.5
(Tow Bundle 200,000 Denier)	3.0

Staple Cuts are 1 1/2" to 6".

Spun Dyed Black 15¢ per lb. extra.

*Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Dacron"*** Staple and Tow

Denier	Luster	Type**	Length	Tow Bundle	1st Gr.
1.5	Semidull	54	1 1/2"	None made	1.26
2.25	Semidull	64	1 1/4" - 4 1/2"	450M	1.41
3.0	Semidull	54	1 1/4" - 4 1/2"	450M	1.36
3.0	Semidull	61	1 1/4" - 4 1/2"	None made	1.36
3.0	Semidull	64	1 1/4" - 4 1/2"	450M	1.41
4.5	Semidull	54	1 1/2" - 4 1/2"	450M	1.31
6.0	Semidull	54	1 1/2" - 4 1/2"	450M	1.31
6.0	Semidull	61	1 1/2" - 4 1/2"	None made	1.31
6.0	Semidull	64	1 1/2" - 4 1/2"	450M	1.36

*Type:

Type 54—Semidull, Normal Tenacity.

Type 61—Industrial Staple having 45% Shrinkage. Not intended for Dyeable Uses.

Type 64—More Pill Resistant Staple, with Greater Dyeing Versatility.

"Dacron" Polyester Color-Sealed Black

Staple and Tow

2.25	Color Sealed Black	64	1 1/2" - 4 1/2"	450M	1.61
3.0	Color Sealed Black	64	1 1/4" - 4 1/2"	450M	1.61

F. O. B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

** Dupont's Registered Trade-mark for its Polyester Fiber.

Eastman Chemical Products, Inc.

Tennessee Eastman Co. Current

"Kodel"***

Deniers	Semi-Dull	Tow	Black	Staple and Tow	Blue
				Brown	
1.5	\$1.33	\$1.41	....	....	....
2.25	1.41	1.41	\$1.76	....	....
3.0	1.41	1.41	1.76	\$1.86	\$1.96
4.5	1.36	1.36	....	....	....

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

* "Kodel" is a trade-mark of the Eastman Kodak Company.

Celanese Fibers Company

Current Prices Effective June 10, 1960

Fortrel Polyester Staple and Tow

Denier	Staple	Price
	Luster	
1.5	Semi-dull	\$1.26
3	Semi-dull	1.36
4.5	Semi-dull	1.31
6	Semi-dull	1.31

Staple lengths 1 1/2", 2" and 3".

All staple packaged in 500 pound bales.

Denier	Tow	Price
	Luster	
1.5	Semi-dull	\$1.36
3	Semi-dull	1.36
4.5	Semi-dull	1.31
6	Semi-dull	1.31

Total denier of all tow is 225,000.

All tow packaged in 300 to 400 pound cartons.

TERMS: Net 30 days. F.O.B. destination—Freight prepaid our route within the continental limits of the United States, excluding Alaska. Prices subject to change without notice.

VINYON

American Viscose Corp. Effective October 1, 1956

Avisco Vinyon Staple

1.5 denier 1 1/2" Unopened	\$.90 per lb.
3.0 denier 1 1/2" Unopened	.80 per lb.
3.0 denier 1 1/4" Unopened	.80 per lb.
3.0 denier 1 1/4" Opened	.90 per lb.
3.0 denier 2" Opened	.90 per lb.
5.5 denier 1" Opened	.90 per lb.
5.5 denier 1 1/2" Unopened	.80 per lb.

Terms: Net 30 days.

SARAN

The National Plastics Products Company—

Fibers Division

Odenton, Maryland

Current Prices:

Saran Staple

Type	Denier	Natural	Colors
2Y—Upholstery	22	\$0.70	\$0.75
2Y—Upholstery	16	.74	.79
3Q—Industrial Fabrics	22	.68	.72
1C—Carpets	22	.68	.72
1M—Mops	22	.68	.72

In any staple length 1 1/4 to 6". Also 45 denier, 7" cut.

F.O.B. Odenton, Maryland.

Terms: net 30 days.

GLASS YARN

Owens Corning Fiberglas Corp.

A Decorative Continuous Yarn

DE 150 1/0 1.0 TPI	53¢ per lb.
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F.O.B. Freight Allowed.

Meltzer New Beaunit President

Irwin S. Meltzer has been elected president of Beaunit Mills, Inc., producer of both manmade fibers and knitted and woven fabrics. Dr. Hugo Hofman has been elected Beaunit's chairman of the board of directors. Both positions were held by Israel Rogosin, founder of the company, who has been elected chairman of the newly created executive committee.



Irwin S. Meltzer

In relinquishing his dual post as president and chairman of the board, Rogosin expressed the wish to devote a greater portion of his time to his various civic, charitable and personal affairs. He therefore asked the board to relieve him of his duties as chairman and president.

Meltzer has been with Beaunit since 1948. In 1955 he was made vice president in charge of fabric sales, and in 1959 he became president of the textile division of the company. Hofman has been with the company since 1926. He was plant manager and chief chemist of American Bemberg and after Bemberg was acquired by Beaunit, he became vice president and technical director of the yarn division. In 1959, he was named president of Beaunit's fiber division.

Creslan Swim Suits

Cole of California, swimwear manufacturer, has introduced a new lightweight elasticized knit fabric blended of 68% Creslan acrylic fiber, 21% cotton, and 11% rubber. The suit will be available in one misses style and one junior style. The fabric containing Creslan was selected for its light weight, dry-fast properties, and its affinity for fast dyes. The suits will retail for about \$18.



Dary RING TRAVELERS...
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THE DARY RING TRAVELER CO.
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The Borregaard Co., Inc.
Norway House, 290 Madison Avenue
NEW YORK 17, NEW YORK
Norwegian Viscose Rayon Staple Fiber
Bright  Dull
Sole Agent For United States, Canada, Mexico, Cuba

PUSH OUT STATIC!

It's done safely, inexpensively, with the Simco "Midget" electronic static eliminator. The "Midget" is unconditionally guaranteed to do the job right. There is a size for every machine. Simco, America's largest specialist in anti-static equipment, also furnishes shockless bars (safe for hazardous areas), anti-static cleaning devices and sheet separators, sprays, and meters for measuring static. Write for facts.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

Business Service Section

CLASSIFIED RATES	
Per Inch	to the
columns	page, each column 8
	inches deep
1 inch	----- \$8.00
2 inches	----- 15.00
3 inches	----- 22.50
4 inches	----- 28.00
5 inches	----- 35.00
6 inches	----- 42.00
7 inches	----- 49.00
8 inches	----- 52.00

Exclusively for Business, Laboratory and Mill Services; Positions and Men Wanted; Business Opportunities; Mill Properties Wanted or For Sale; Reconditioned Machinery and Equipment, etc.

WANTED

For Man-Made Fiber Industry
SENIOR ENGINEER

To supervise activities of drafting office, experienced in machine design in cellulosic and/or synthetic fiber field. Salary \$11,000 to \$14,000 depending on experience.

BOX 851, MODERN TEXTILES MAGAZINE
303 Fifth Ave., New York 16, N. Y.

DACRON, NYLON, RAYON & ACETATE BOUGHT AND SOLD YARNS

BERTNER YARN COMPANY
Empire State Bldg. New York City
Oxford 5-1170

POSTION WANTED

Man under 35, graduate Textile engineering. Postgraduate work Industrial Management and Marketing. Now holding top executive position in Textile Manufacturing, sales and marketing. Considering relocation.

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EMPLOYMENT SERVICE Over 55 Years in Business
THE POSITION YOU WANT may be available right now. The demand for executives is increasing. Salaries are attractive. You are invited to send us your resume in confidence.
THE EXECUTIVE YOU NEED may be listed with us. Employers find our Service helpful and time saving.
Your phone call, wire or letter will bring prompt attention.
CHARLES P. RAYMOND SERVICE, INC.
Phone Liberty 2-6547 294 Washington St. Boston 8, Mass.

WANTED

For Polyester Fiber Plant

Experienced Engineers and Chemists.
Annual salary: Juniors \$12,000 to \$15,000 and Seniors: \$15,000 to \$20,000.
Must be willing to relocate.

BOX 852, MODERN TEXTILES MAGAZINE
303 5th. Ave., New York 16, N. Y.

WANTED

Assistant dyer or shift dyer. Experienced in synthetics. Good future with growing concern located in the South. State experience and salary requirements. Box 858.

MODERN TEXTILES MAGAZINE
303 Fifth Ave., New York 16, N. Y.

POSITION WANTED

Textile Engineer, M.S., 30 years old, 4 years textile mill experience, 3 years research and development for continuous filament yarn manufacturing company (process development, processing evaluation, physical testing, fabric development, etc.), seeks position with manmade fiber company in applications research and development and/or customer technical service.

BOX 862, MODERN TEXTILES MAGAZINE
303 Fifth Ave., N. Y. 16, N. Y.

WANTED BOBBINS

Tapered bobbins, ends 2 1/2" X 3 3/4", length 5", or close to this measure. Will buy any quantity.

Freetex Weaving Corporation
Decorative Jacquard Upholstery Fabrics
66 Railroad Avenue
Paterson 1, New Jersey

Plan

NOW---

to advertise in our

JUNE ISSUE FEATURING—

"New Opportunities in Apparel Fabric"

MTM's June issue will enlarge its special report on marketing opportunities in apparel fabrics containing man-made fibers.

Your ad will get

MAXIMUM EXPOSURE
in
MODERN TEXTILES MAGAZINE

Calendar of Coming Events

Apr. 5—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
 Apr. 12-14—Alabama Textile Manufacturers Association annual meeting. Buena Vista Hotel, Biloxi, Miss.
 Apr. 16-18—Narrow Fabrics Institute spring meeting. The Tides Inn, Irvington, Va.
 Apr. 18-19—Technical Advisory Committee and Board of Trustees meeting. Institute of Textile Technology, Charlottesville, Va.
 Apr. 23—Georgia Textile Operating Executives spring meeting. Hightower Building, Georgia Institute of Technology, Atlanta, Ga.
 Apr. 24-25—Underwear Institute annual meeting. Hotel Dennis, Atlantic City, N. J.
 Apr. 24-28—Knitting Arts Exhibition. Auditorium, Atlantic City, N. J.
 Apr. 26-29—Georgia Textile Manufacturers Association annual meeting. Hollywood Beach Hotel, Hollywood, Fla.
 Apr. 27-28—Fiber Society spring meeting. Georgia Center for Continuing Education, Athens, Ga.
 Apr. 29—Alabama Textile Operating Executives spring meeting at Thach Auditorium, Auburn, Alabama.
 May 3—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
 May 5-6—Phi Psi Fraternity, 58th annual meeting, Shoreham Hotel, Washington, D. C.

May 10-14—Carolina Yarn Association, annual outing. Carolina Hotel, Pinehurst, N. C.
 May 16-17—National Cotton Council, joint cotton marketing—cotton research clinic. Peabody Hotel, Memphis, Tenn.
 May 24-27—Tufted Textile Manufacturers Association annual convention. Hotel Deauville, Miami Beach, Fla.
 Jun. 5-8—ISA Summer Instrument-Automation conference and exhibit. Toronto, Canada.
 Jun. 5-9—Society of the Plastics Industry annual national conference and exposition. Commodore Hotel and Coliseum, New York, N. Y.
 Jun. 7—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
 Jun. 17-20—Southern Garment Manufacturers Association annual convention. Roosevelt Hotel, New Orleans, La.
 Jun. 22-24—Southern Textile Association annual convention. Ocean Forest Hotel, Myrtle Beach, S. C.
 Jul. 27-Aug. 1—IUPAC International Symposium on Macromolecular Chemistry. Queen Elizabeth Hotel, Montreal, Canada.
 Sept. 27-29—AATCC National Convention, Hotel Statler, Buffalo, N. Y.
 Nov. 13-15—Narrow Fabrics Institute, Inc. meeting. Statler-Hilton, New York, N. Y.

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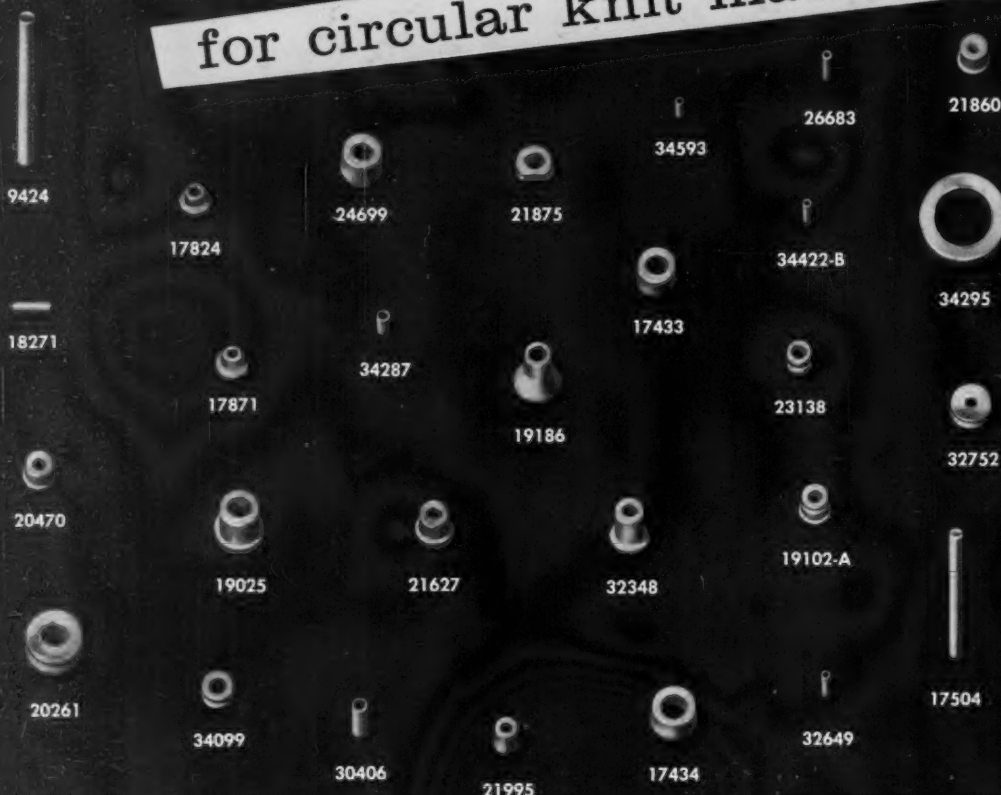
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